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Archives of Dermatology and Syphilology

VOLUME 15 JUNE, 1927 NUMBER 6

VARICOSE ULCERS OF THE LEG

TREATMENT WITH THROMBOSIS AND GELATIN CAST BANDAGES *

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AND

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Because of the slowness with which ulcers of the leg heal under the usual forms of treatment, and the difficulty of keeping patients with ulcers in bed, we felt that a simple remedy should be sought which would be adaptable to the many ambulatory cases under observation; that is, some method which offered freedom from the risks and inconveniences incidental to the surgical operation. We decided to try thrombosis of the varicose veins, accompanied by the application of casts made of Unna's gelatin glue, as suggested by Dr. G. Nobl [1] in 1918, and the results of our efforts are reported here.

Attempts to obliterate varicose veins by intravenous injections of irritating chemicals have been made for many years. Chassaignac,[2] in 1854, used perchloride of iron, which was later discontinued because of the report of several deaths. Persulphate of iron was used by Wood,[3] in 1877, who reported three cures in eleven cases treated. Bonnet [4] quotes Vallette as having used iodotannic solution in 1867, reporting two hundred cures without any serious accidents. Negretto [5] treated a few patients with chloral in 1880, and obtained good results. More

* From the Dermatological Service of the City Hospital.

1. Nobl, G.: Zur Kunstlichen Thrombose der Varizen, München. med. Wchnschr. **65**:415, 1918.

2. Chassaignac: Resultats obtenus a l'hopital Saint-Antoine, par l'injection du perchlorure de fer dans les veines variqueuses, Gaz. hebd. de méd. **4**:278, 1853-1854.

3. Wood, F. B.: Treatment of Varicose Veins by the Hypodermic Injection of Solution of Persulphate of Iron, with a Report of Three Cases, Detroit M. J. **1**:889-895, 1877.

4. Bonnet, N.: Du traitement des varices superficielles par les injections intra-variqueses de carbonate de soude, Thesis, Paris, 1920.

5. Negretto, A.: Contribuzione allo studio delle varici degli arti inferiori, Ann. Univ. de Med. e Chir. Milano **253**:3-89, 1880.

recently, in 1901, Laval [6] recommended the injection of a 5 per cent solution of phenol, after ligation of the saphenous vein. The same year, Schiassi [7] introduced from 30 to 50 cc. of a solution of iodine and potassium iodide into the veins of the leg after ligating the saphenous vein above the knee. In 1921, Sinser [8] used injections of a 1 per cent solution of bichloride of mercury. J. A. Sicard and J. Paraf [9] highly recommended the use of a 10 per cent neutral solution of sodium carbonate. They reported that all of the various methods already mentioned failed successively, and that satisfactory results could be obtained only by the use of a nontoxic chemical which did not cause embolism. In ninety-five cases which they treated over a period of more than two years, embolism was not produced, and the varicose veins have not reappeared in any case.

G. M. Nejrotti,[10] in 1922, used compression bandaging of the legs, artificially removing circulatory disturbances, and reported favorable results. J. B. Murphy,[11] in 1909, recommended the use of leggings in the treatment of varicose ulcers, when operation was refused or considered inadvisable. In 1921, F. B. Gurd [12] obtained satisfactory results in the treatment of ambulatory cases by strapping the leg with adhesive plaster.

For a number of years we had used various remedies in the treatment of leg ulcers, including wet dressings, ointments, oils, adhesive strapping, artificial light and pituitary extract, but the improvement was slow and often disappointing. Consequently, on March 24, 1925, we instituted the treatment of thrombosing the veins, and applying Unna's zinc gelatin cast.

TECHNIC OF TREATMENT

The technic of the treatment is as follows: First, the leg is thoroughly cleansed with a brush of medium stiffness, hot water and soap, and by sponging afterward with a 50 per cent solution of alcohol. The patient is placed on a table in a horizontal position, a tourniquet is applied above the knee, the site of

6. Laval, E.: Traitement des varices des membres inferieurs, Bull. gén. de thérap. **142**:298-312, 1901.

7. Schiassi, B.: La cure des varices du membre inferieur par l'injection intraveineuse d'une solution d'iode, Semana méd. **28**:601, 1908.

8. Sinser: Die Behandlung der Grampfadern mit Sublimate Inspritzungen und ihre Folge, Med. Klin. **17**:1445, 1921.

9. Sicard, J. A., and Paraf, J.: Traitement des varices par l'injection intravariqueuse de carbonate de soude, Bull. et mém. Soc. méd. d. hôp. de Paris **44**:1369-1375, 1920.

10. Nejrotti, G.: Sulla patogenesi e cura delle ulcere varicose della gamba, Riforma med. **38**:10, 1922.

11. Murphy, J. B.: Treatment of Varicose Ulcers by Leggings, J. A. M. A. **53**:1033 (Sept. 25) 1909.

12. Gurd, F. B.: An Ambulatory Treatment for Chronic Ulcers of the Leg, Canad. M. A. J. **11**:815, 1921.

the injection is chosen, and the area is sterilized with iodine. The needle is inserted into the vein, the tourniquet is removed, and the blood is stripped from the vein by means of the thumb and index finger of the left hand which are placed on either side of the needle and separated while firm pressure is exerted. With a 5 cc. syringe, and a large hypodermic needle, about 0.5 to 2 cc. of sodium salicylate solution is injected into the lumen of the vein with the point of the needle. As the needle is withdrawn, firm pressure is exerted by means of sterile gauze over the site of the injection for one or two minutes in order to prevent escape of injected fluid into the general circulation. Where the base of the ulcer is covered with excessive granulation or the edges are rolled, the base and edges are curetted, or trimmed, ethyl chloride being used as a local anesthetic. The ulcer is then painted with a 3 per cent solution of iodine, a sterile gauze dressing is applied, and, beginning over the instep, the entire leg is bandaged with 2-inch (5 cm.) gauze soaked in a warm solution of Unna's gelatin glue. The composition of this is:

Zinc oxide	1,000 Gm.
Gelatin	600 Gm.
Glycerin	1,400 cc.
Distilled water	2,200 cc.

As the leg is encircled with the bandage, an assistant paints it with the glue, using a 2-inch (5 cm.) paint brush.

The cast may be left on for one or two weeks, being changed only when soaked with secretions from the ulcer, or when the patient complains of undue pressure. We do not advocate cutting a window in the bandage when it becomes wet with secretion, since this removes the uniform support to the parts, which is so necessary to the healing of the ulcer, and often results in the ulcer's becoming necrotic or covered with a greenish slough.

Injections are usually made into the veins about once a week, or whenever the casts are changed. They may be made into a single vein in several different locations, but usually not closer than 3 inches (7.6 cm.) apart. We have administered as many as fourteen injections into one leg at a sitting. The number of treatments varies from one to seven, and the total quantity of the injected solution from 0.5 to 25 cc.

Only moderate pain is present at the time of injection, and it entirely disappears in from one to three minutes. We have not noted any constitutional symptoms, nor has there been a case of embolism.

In the beginning we tried a number of irritating drugs in an attempt to thrombose the veins. Among these were bichloride of mercury, 1 per cent; carbolic acid, 5 per cent; chromic acid, 20 per cent, and sodium hydroxide, from 5 to 10 per cent. These were discontinued, however, because of the frequency with which the site of injection sloughed, and ultimately only sodium salicylate, or sugar, 36 per cent, was used. We have too recently begun the use of sugar to give a conclusive opinion, but with the twenty-five cases in which it has been tried, the results have been very satisfactory. A total of two hundred injections of the sodium salicylate have been given, and to date there has been only one slough, that being about 1.5 cm. in diameter, and healing in ten days. The formula is:

Sodium salicylate	1.8 Gm.
Procaine hydrochloride	0.05 cc.
Distilled water	q. s. 6.00 cc.

COMMENT

Eighty-two patients were treated by this method, no discrimination being made in the selection, except in the requirement of a negative Wassermann reaction. Thirty-five of the patients were female, and forty-seven male. The ages varied from 43 to 76, the average being 59 years, and the duration of the ulcers was from one and one-half to thirty years. In a number of instances the lesions were extensive, encircling the entire lower third of the leg, with the skin from the knee down bluish brown, greatly thickened, hard and warty. All the patients belonged to the laboring class, the men being truckmen, seamen, longshoremen and machinists, while the women were cleaners and laundresses.

The veins were thrombosed and the cast was applied in thirty-two cases, while the remaining fifty patients were treated with the cast alone. In the latter, either the surrounding skin had become much thickened so that veins were not visible, or sclerosis of the veins had already occurred. The great majority of the patients showed moderate to pronounced arteriosclerosis, and a number had cardiac diseases. In most instances the blood chemistry and urines were normal. The roentgenograms in 50 per cent showed evidence of localized periostitis and osteitis. Roentgenologic reports revealed that frequently the fibula was involved. In one case, that of a woman, aged 48, who had had a leg ulcer for eight years, the roentgen ray showed osteomyelitic changes with osteophyte production in the fibula. Amputation had been advised by two surgeons, but refused. The varicosities were thrombosed at three sittings at weekly intervals, and casts were applied. After five months of this treatment the ulcers were practically healed, and the patient, for the first time in six and one-half years, was able to walk about wearing shoes.

The results in this series of treatments have been satisfying. Of the eighty-two patients, thirty-four, or 41 per cent, have been discharged as cured. In eighteen of the discharged patients the veins were thrombosed and the cast was applied, while in sixteen the cast alone was applied. This showed that the percentage of cures with the veins thrombosed and the cast applied about equaled that of cures when the cast alone had been applied. In those patients remaining under treatment the ulcers show from slight to marked improvement. No attempt is made to keep the patients in bed; rather, are they encouraged to be up and about. Generally speaking, the younger the person, the more recent the ulcer and the less extensive the surrounding sclerosis of the skin, the more rapid is the healing of the ulcer.

CONCLUSIONS

The treatment of varicose ulcers of the leg by means of thrombosing the veins with a solution of sodium salicylate, and the application of Unna's zinc gelatin glue bandages has been very beneficial in a group of

eighty-two cases. To date 41 per cent of the patients have been discharged cured. Patients have been impressed with the comfort of the casts, which often afford considerable relief from pain and swelling, and they express great appreciation of the treatment. The patients are able to continue their occupations, since the treatment is ambulatory. Embolism or other untoward reactions have not been present in any instance.

FEVER IN TERTIARY SYPHILIS*

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CLEVELAND

In 1872 Bäumler [1] described intermittent quotidian fever in tertiary syphilis, and reported several cases. Bäumler states that P. G. Werlhof (1732), Joseph Frank (1821), Prosper Yvaren (1854) and Wunderlich (1870) recognized febris quotidiana syphilitica, and appreciated both the value of mercury and the inadequacy of quinine in the treatment of the disorder. According to Thayer,[2] Sir William Jenner observed that when quotidian chills and fever do not yield to other treatment, they may to potassium iodide. The literature of the last quarter-century contains numerous relevant communications, including, among others, noteworthy contributions by Thayer,[2] Bialocour,[3] Janeway,[4] Bassett-Smith,[5] Morgan,[6] Futcher,[7] McKenna,[8] Imhof-Bion,[9] Huber,[10] Scherck,[11] Siebert,[12] Jordan,[13] Stern [14] and Taussig.[15] Excellent bibliographies are to be found in the last four papers.

In one of Futcher's cases the pyrexial onset took place twenty-nine years after the chancre was acquired. Sinha (cited by Thayer) reported a case in which fever was present most of the time over a period of ten years. Bassett-Smith's patient showed a daily temperature range of 7 F. With the exception of the tertian and quartan types, almost every known form of temperature curve has been described. Chills are not common, even in cases in which the temperature exhibits the wide variations characteristic of endovascular sepsis. Enlargement of the liver, or of the liver and the spleen, has been

* From the Department of Medicine of Western Reserve University and Lakeside Hospital.

1. Bäumler: Deutsches Arch. f. klin. Med. **9**:397, 1872.
2. Thayer: Internat. Clin. **4**:94, 1923.
3. Bialocour: Bull. et mém. Soc. méd. d. hôp. de Paris **45**:1721, 1921.
4. Janeway, E. G.: Am. J. M. Sc. **116**:251, 1898.
5. Bassett-Smith: Lancet **2**:1803, 1900.
6. Morgan: Philadelphia M. J. **5**:360, 1900.
7. Futcher: New York M. J. **73**:1065, 1901.
8. McKenna: M. News **87**:1126, 1905.
9. Imhof-Bion: Med. Klin. **5**:766, 1909.
10. Huber: Therap. d. Gegenw. **52**:59, 1911.
11. Scherck: Am. J. Urol. **5**:462, 1908-1909.
12. Siebert: Beihefte z. Arch. f. Schiffs- u. Tropen-Hyg., 1907, supplement 4, pp. 1-33.
13. Jordan: Arch. f. Dermat. u. Syph. **108**:513, 1911.
14. Stern: Arch. f. Dermat. u. Syph. **108**:1061, 1912.
15. Taussig: Tr. Am. Gynec. Soc. **41**:408, 1916.

reported frequently, but in a great many cases demonstrable evidence of visceral involvement has been conspicuously wanting. Loss of weight and secondary anemia were noted in most of the patients whose fever was of long duration. Mercury and potassium iodide, separately or in combination, constituted the usual treatment, and it is worthy of note that a considerable number of observers found the iodide much more effective than mercury. All agree, however, in reporting the prompt subsidence of the fever under some form of antisyphilitic therapy.

The object of this paper is to report a case which illustrates again the importance of recognizing the fact that quotidian, remittent and intermitting fever of high degree may be the chief manifestation of tertiary syphilis.

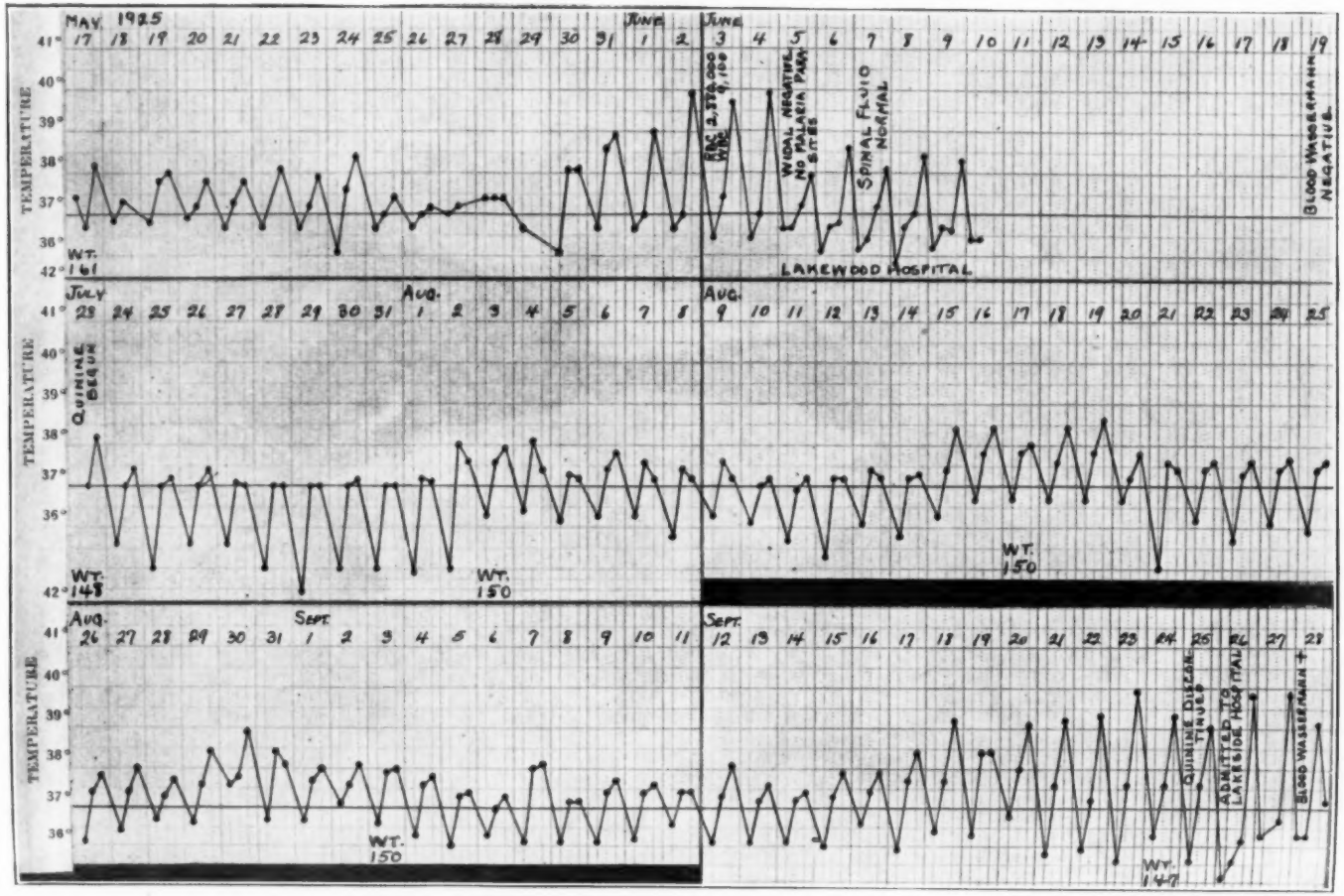
REPORT OF CASE

Present Illness.[16]—H. McC., a man, aged 49, began to experience occasional night sweats in January, 1924. By May he was having quotidian nocturnal fever as high as 40 C., accompanied by general malaise, restlessness and insomnia. In June he still retained his normal weight of 160 pounds (73 Kg.). The first chill occurred in September. Chills were relatively infrequent, only six being noted in the course of a year. In October, his recorded temperature did not exceed 38.5 C., and he was only about 5 pounds (2.3 Kg.) under weight. At this time, roentgenologic examination of the lungs did not reveal any evidence of disease, and examination of the sputum did not disclose tubercle bacilli. Throughout November and December he remained slightly under weight, and suffered considerably from night sweats. During the first four months of 1925 the patient was somewhat better; the weight was normal, and fever was not recorded. In May the fever and other symptoms returned, and, at the suggestion of his physician, he began to keep a daily record of his temperature (chart, May 17 to September 25). Early in June, 1925, he entered a hospital for observation. At that time it was established that he had a pronounced secondary anemia, no leukocytosis, a negative Widal reaction, no malarial parasites in his blood and a negative blood Wassermann reaction. The spinal fluid did not show any increase in cells or globulin, and gave a negative Wassermann reaction. The cause for the pyrexia was not discovered.

The patient had high fever throughout the early part of July, and the weight went down to 148 pounds (67 Kg.) The stool was examined for *Endameba dysenteriae,* but none was found. In the latter part of July the patient began to take quinine in doses of about 1 Gm. a day. This drug exerted considerable antipyretic effect for a time (chart, July 23 to August 14), but eventually the fever returned to its former level in spite of the quinine (August 15 to September 25). The patient was admitted to Lakeside Hospital September 26, complaining only of the high fever and its associated symptoms of headache, sweating and general wretchedness. He had been ill for eighteen months, was 20 pounds (9 Kg.) under weight and suffered acutely from neurasthenia.

Past History.—Within the last thirty years the patient had traveled extensively along the Atlantic seaboard and in the southern states. He had

16. Dr. C. Lee Graber and Dr. H. C. King furnished me with many facts relating to the present illness.


MAY 1925
JUNE
JUNE
TEMPERATURE
WT. 141
WIDAL NEGATIVE NO MALARIA PARA SEEN
SPINAL FLUID NORMAL
LAKEWOOD HOSPITAL
BLOOD WASSERMANN NEGATIVE
JULY
AUG.
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QUININE 60 GR
WT. 143
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WT. 150
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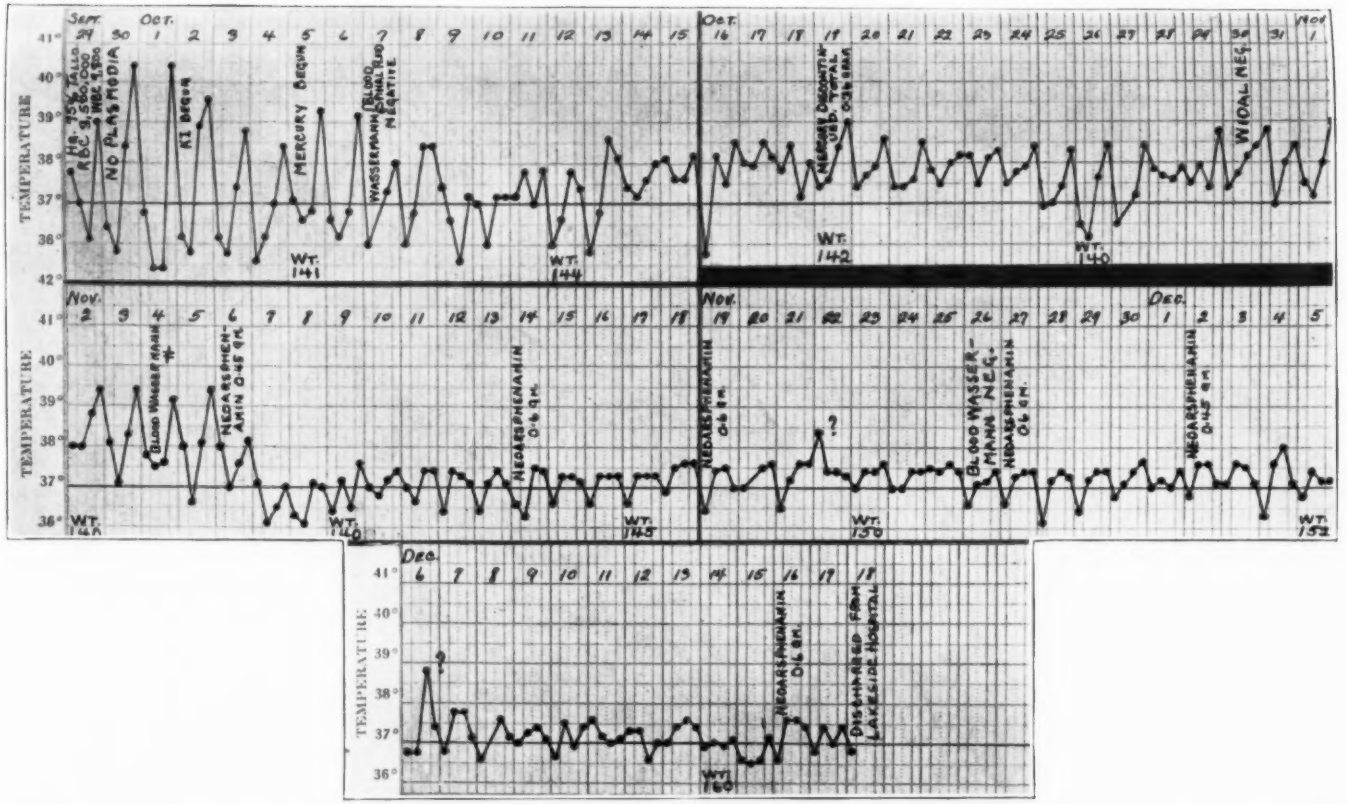

Fever of tertiary syphilis. Temperature from May 17 to September 25, by mouth; all subsequent temperatures by rectum. The following should be noted: the temporary effect of quinine, from July 23; the partial remission under mercury and potassium iodide, from October 2, and the striking effect of neoarsphenamine, beginning November 6.

spent as much as six weeks at a time in New Orleans, Dallas, Texas, El Paso, Texas, and Chattanooga, Tenn. In 1900 he contracted gonorrheal urethritis and a chancroid, from which he recovered quickly and completely. At about the same time he developed cutaneous lesions over the right ankle which were diagnosed "eczematoid dermatitis." These lesions were unaffected by local treatment and did not disappear until the patient was brought under the influence of an arsenical preparation, taken internally.

While living in Cincinnati, in 1905, the patient became ill with dysentery, characterized by two or three brown, watery stools a day. It was noted that food traversed his gastro-intestinal tract with unusual rapidity. The illness lasted four or five months, during which time he lost 30 pounds (14 Kg.). The diagnosis made by his physician was "tuberculous enteritis," and the patient was not expected to recover. Finally, the patient himself assumed therapeutic responsibilities, and to that fact and to the use of bismuth subnitrate he attributed his recovery.

In 1920, while stopping in Chattanooga, Tenn., the patient again became ill with dysentery, accompanied by pain in the lower part of the abdomen. This illness lasted only a few days, but it induced weakness from which he did not recover fully for a month.

The patient had never had symptoms referable to malaria or pulmonary tuberculosis, and he was quite certain that he did not have amebic dysentery. The only fact of importance in the marital or family history was that the patient's mother had pulmonary tuberculosis.

Physical Examination.—The patient was intelligent, well developed, somewhat undernourised, keenly interested in his condition and strongly inclined to be introspective. The pupils were equal and regular in outline, reacting well to light and in accommodation. All the deep reflexes, including the patellar and achilles, were equal and active. There was a normal response to plantar stimulation and questionable acropallanesthesia. Abnormalities in the head, ears, mouth and neck were not observed. The lungs gave negative results on physical and roentgenologic examination. The heart and aorta were normal. The genitalia and extremities gave negative observations.

The only abnormal physical observations were moderate enlargement of the left lobe of the liver, unaccompanied by demonstrable alteration of consistency or surface conformation, and enlargement of the spleen to the extent that its edge could be palpated at the costal margin at the height of inspiration.

Under the influence of potassium iodide and mercury the patient's fever receded to a certain extent (chart from October 7 on), but any effect on the size of the liver and spleen was not manifest. (The administration of mercury was pushed as vigorously as possible. In two weeks' time the patient was given 0.36 Gm. of mercuric iodide by intramuscular injection, which was sufficient to produce salivation, mild stomatitis and all the general symptoms of intoxication with mercury.) Not only did the first injection of neoarsphenamine bring about a striking fall of temperature (chart, November 6-7), but also eight days afterward the liver and spleen were distinctly smaller, and three days after the second injection enlargement of these viscera was not demonstrable.

The patient remained perfectly well for more than seven months after discharge from the hospital. He was free from fever and anemia, and the weight remained stationary at about 170 pounds (77 Kg.). However, in July, 1926, the fever reappeared, reaching as high as 39 C. within a few days. This occurred when the patient was being treated intensively by intramuscular

injections of mercury, at which time he had not had arsphenamine for three months. An intravenous injection of arsphenamine was administered immediately, and this was followed as promptly as on the former occasion by a complete remission of the symptoms.

NOTE.—The patient remains perfectly well to date, Jan. 26, 1927.

COMMENT

Interest in this case centers about the protracted fever, the cause of which could not be discovered by direct methods. There was nothing in the history, physical observations or serologic reactions to justify a positive diagnosis of tertiary syphilis and syphilitic pyrexia. Such a diagnosis might be reached by exclusion, but it could not be substantiated except by therapeutic test. The fact that mercury and potassium iodide did not effect modification of the hepatic and splenic enlargement and exerted only a transient and equivocal effect on the fever is most unusual. It may even be regarded as a serious objection to the diagnosis, if it is admitted that the arsphenamines are distinctly less specific in their therapeutic action. However, the therapeutic effect in this case was so convincing, and so unlikely in any of the known alternative diseases, that one was forced to accept a diagnosis of tertiary syphilis. Of the writers consulted, Jordan [13] alone expresses the opinion that arsphenamine may be superior to mercury and potassium iodide.

Differential diagnosis must include the consideration of Malta fever, Hodgkin's disease, leukemia, malaria and tuberculosis. Malta fever is suggested primarily by the character of the fever, together with secondary anemia, splenic enlargement and want of leukocytosis. Against this diagnosis are the patient's assertion that he never partook of raw goat's milk, his absence for several years prior to the onset of his illness from regions in which Malta fever is endemic and the want of mononucleosis or symptoms referable to neuritis or arthritis.

Subacute Hodgkin's disease, with the Pel-Ebstein type of fever, secondary anemia and enlargement of the liver and spleen, but without obvious lymphatic involvement, might possibly present such a picture. Myeloid leukemia in the "subleucemic" stage might conceivably manifest itself similarly.

Malaria is excluded by the comparative freedom from chills, and the repeated failure to discover plasmodia in the presence of otherwise active symptoms. A diagnosis of tuberculosis is untenable without clinical or bacteriologic evidence.

In endeavoring to explain the mechanism of the fever, two possibilities must be considered: (1) a sharply localized syphilitic process involving the medulla in relation to the heat-regulating centers, and (2) an active inflammatory process of the liver and spleen, accom-

panied by fever in the usual sense. The first cannot be excluded altogether, but its aid need not be invoked in the face of demonstrable visceral signs which subsided under appropriate treatment.

SUMMARY

A case is reported which illustrates the fact that syphilis must be given adequate consideration in the endeavor to discover the cause of recondite pyrexia of long duration. It is impossible to exclude syphilis by uniformly negative observations in the history, physical examination and laboratory tests. Nothing less than a thorough therapeutic trial of mercury, potassium iodide and arsphenamine is sufficient to establish or disprove a presumptive diagnosis of syphilis.

STUDIES IN HYPERCHOLESTEROLEMIA

III. THE APPROACH TO THE PATHOGENESIS OF THE XANTHOMAS *

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By this time the dermatologic profession has become accustomed to think at once of hypercholesterolemia when xanthoma is mentioned; moreover, thanks to Darier,[1] Pollitzer and other disciples of the French school, it has learned to go still further and to look at diabetes, rheumatism and nephrosis as among the morbid states that might underlie the hypercholesterolemia. But here any further current knowledge of the relationship of the xanthomas to the hemic state stops, as far as the specialty in general is concerned. Yet back of the more outstanding facts there is a large store of information, concerning not only xanthoma but also xanthosis in general, which is more or less denied to many dermatologists because it is so widely scattered in the literature. As an intimate knowledge of this is necessary to an understanding of several different yellowish dermatoses already well known to dermatologists, to the interpretation of yellowing changes which may vicariously and strangely occur superimposed on other dermatoses, as well as to the proper explanation of the experiments which are about to be recorded, a brief sketch is submitted to show approximately how the relationships between cholesterol and xanthic processes are regarded at present.

XANTHOSIS

What is meant by xanthosis? Contrasted with xanthoma, which is a clinical entity, it is a process. In the pathologic approach to the situation, the most concrete point of departure is the presence of cholesterol in a tissue, associated with a hyperplasia of fibrous tissue or endothelium, or both. This is the minimum basic requirement of the xanthic process. It should be added at once that other fatty substances also are generally associated; it is possible that fuller knowledge of the subject will show that at times cholesterol may be absent and that the yellow color of the process is due entirely to fatty substances other than cholesterol. The latter idea is particularly acceptable in explanation of the xanthosis seen in cases of xanthoma unassociated with a hypercholesterolemia; however, this theory remains to be proved, and eventually it may never obtain. Be this as it may, at present the xanthosis proposition resolves itself into (1) a statement of the ways

* From the Laboratory of Dermatological Research, University of Pennsylvania.

1. Darier, J.: Textbook of Dermatology, Philadelphia, Lea & Febiger, 1920.

and means by which cholesterol appears in the tissues, and (2) the form taken by the tissue alterations in connection with this infiltration. One of the simplest expressions of xanthosis has been brought to attention by Stewart [2] in a more comprehensible and comprehensive way than ever before; his communication dealt entirely with the cellular reactions induced by *local* deposits of cholesterol in the tissues, and prompts me to give separate consideration to this expression of xanthosis in opening the subject.

LOCAL XANTHOSIS

The term xanthosis was coined by Siemens [3] to indicate that tissue had become yellow as the result of an infiltration of its cells by cholesterol and related substances. It is thus a term that applies both to lesions in connection with a generalized hypercholesterolemia and to those of the local nature with which Stewart dealt; it is particularly useful and acceptable when there is uncertainty that a xanthoma-like process is genuine xanthoma. Xanthosis is thus expressed histologically in the form of the well known xanthoma cells, and it at once follows that xanthoma cells are found alike in the lesions that are part of the purely local cholesterol deposits and in those that are incidental to a hypercholesterolemia. Stewart mentions local xanthosis in such lesions as ovarian and other dermoids, epithelioma, old retention cysts (mammary gland, thyroid, sebaceous glands) and other areas in which there is degeneration or necrosis with excessive production of cholesterol and allied substances. It is well to remember the possibility of local xanthoses when dealing with cases of xanthelasma of the eyelid which are unassociated with hypercholesterolemia; the close proximity of such richly fatty structures as the Meibomian glands and the occasional cysts that develop in connection with them is perhaps significant in this connection. I have seen xanthoma cells develop around a chalazion; however, this one was unassociated with xanthelasma.

The only thought that I would add to Stewart's useful communication is that perhaps the local deposits depend on factors additional to the purely local ones. Of course, the fact that such lesions are connected with foci of degeneration or necrosis, which involve an abundant supply of fatty degenerative substance, is so significant that it cannot be ignored. Indeed, these degenerative substances are useful in explaining the mechanism of xanthosis; however, blood cholesterol concentrations have not been determined in such cases, so far as I have been able to learn. Stewart does not give information as to this point, and it may well be that there was a hypercholesterolemia which perhaps inter-

2. Stewart, M. J.: On the Cellular Reactions Induced by Local Deposits of Cholesterol in the Tissues, J. Path. & Bact. **19**:305, 1915.

3. Siemens, H. W.: Concerning Xanthoma, Arch. f. Dermat. u. Syph. **136**: 159-197, 1921.

fered with the prompt absorption of such cholesterol substances. Thus it is conceivable that local xanthoses develop in tissues frequently (abnormal involution of breast, acne vulgaris, etc.), but that the cholesterol and other lipoidal substances are promptly absorbed in those cases in which the plasma is not already oversupplied with cholesterol. In short, I would suggest the possibility of a more or less latent and intermittent hypercholesterolemia as a contributory factor to the development of what are at present considered as purely local xanthoses. The status of the blood cholesterol concentration in local xanthoses merits investigation.

GENERALIZED XANTHOSES

Generalized xanthoses are generally regarded today as being contingent on a hypercholesterolemia, although there has been a number of cases of xanthoma that were unattended by that state (vide infra). Given the hypercholesterolemia, it is but a step to the understanding of an infiltration of cholesterol into different tissues of the body (either by deposition from the blood or by preventing absorption by the blood), and accordingly one knows by this time of such conditions as xanthoma diabeticorum, xanthoma tuberosum, lipemia retinalis and perhaps some cases of atheroma; all of these may be dependent on this general, hemic state. A fuller consideration of the varied cutaneous and other tissue expressions of hypercholesterolemia will appear in another place.

This concept may be regarded as having been fully accepted by the French, who were pioneers and who are still tremendously active in cholesterol investigation; and it is probably also accepted by a large majority of the English speaking profession. This development of the etiology of xanthoma is another splendid example of French brilliance and ingenuity—supreme in imagination, not even excepting that most dangerous variety, the scientific.

Preparatory to discussing the animal experiments, certain features of xanthosis will next be indicated in a little more detail, not that they are different from those seen in well known xanthomas. Since the yellowing of xanthosis is the result of the infiltration of cells by cholesterol and related fatty substances, it is a close relative of fatty infiltration, differing from that state essentially in the proportions of the different lipoids concerned. Indeed, xanthosis might well be classified as one of the subdivisions of fatty infiltration, except that the latter process has, by general consent, concerned neutral fats particularly. Dependent on this, there is a morphologic difference dependent on this differing chemistry. Thus, in fatty infiltration, the fatty substance (predominantly neutral fats) maintains a discrete globular form within the cell, but when the cells are infiltrated by cholesterol, as in xanthosis, the cholesterol is in a finely granular or diffuse colloidal state. As a result, when the cells are examined in paraffin sections, in

addition to being swollen, they will exhibit a rarefied, finely granular cytoplasm commonly described as foamy. To recapitulate, then, the term xanthosis is applied to those changes, whether they are local or part of a general hypercholesterolemia, in which tissues become yellow and more or less swollen, and which are characterized histologically by the appearance of xanthoma cells. But as soon as additional features in the given dermatosis are determined which stamp it as distinctive, such as a peculiarity of distribution, the case is removed from the general category of xanthosis and becomes some special form of xanthoma.

While dwelling on the subject of the fat relationships in xanthoma tuberosum, it is appropriate to recall the affinity which obtains between fat and iodine; how, on the one hand, iodine plays a part in the chemical analysis of fat by the "iodine number" method, and, on the other hand, therapeutic successes have been reported by Wise with iodized oil 40 per cent. Needless to say, the exact rationale of such a benefit is unknown, but there is something singular in the fact that the connection between iodine and fats which has obtained for years in the laboratory, is repeated here in the therapeutic way. A more extended trial of therapy with iodized oil 40 per cent is demanded.

ANITSCHKOW'S EXPERIMENTS

In the approach to the pathogenesis of the clinical entity xanthoma, it is evident that interest centers particularly in the hypercholesterolemic phase. As indicated previously, there may be local factors that supply special quantity and quality of fatty material, as in the case of xanthoma of the eyelids. However, in the more widely distributed forms, i. e., xanthoma tuberosum multiplex, certainly the hypercholesterolemic state must be the starting point in experimental attempts to reproduce the disease. This brings up the classic experiment of Anitschkow,[4] and since the impression is abroad that Anitschkow reproduced xanthoma experimentally, it will be profitable to reexamine the premises.

This author produced abscesses in the subcutaneous tissues of hypercholesterolemic rabbits, and within the granulation tissue at such sites described the development of xanthoma cells. The cells that became xanthic were the fibrous tissue cells and the clasmatocytes. It will be seen readily that in the production of Anitschkow's lesions two factors were concerned: first, a high concentration of cholesterol in all tissues, lymphatic as well as blood; second, the production of granulation tissue, i. e., a young, rapidly dividing connective tissue cell which was calculated particularly, I assume, to absorb the lipoidal substance. This is as far as one can go in bringing Anitschkow's work into the realm of xanthomas, and it is at once obvious that those two processes

4. Anitschkow, N. N.: Experimental Investigation on the Deposition of Cholesterol in Subcutaneous Tissue, Arch. f. Dermat. u. Syph. **120**:627, 1914.

do not constitute the sum-total of a disease like xanthoma tuberosum, or any of the xanthomas as at present classified clinically. Anitschkow did not say anything about seeing yellow nodules in the skin elsewhere than at positions irritated, i. e., he does not presume that he produced the disease xanthoma. In short, Anitschkow did produce xanthosis, and thereby greatly increased the understanding of xanthoma, but he did not reproduce any of the xanthomas. Pollitzer brings out clearly that xanthomas must be separated into two phases, i. e., the fatty infiltrative factor and the basic "tumor" factor. The latter is at present the particularly engrossing problem.

Anitschkow's work demonstrates satisfactorily that there is some connection between xanthoma and a blood cholesterol excess; yet the extent to which, and the uniformity with which, this connection exists does not seem to have received attention, or, at any rate, discussion. However, by now there must be a general undercurrent of dissatisfaction among dermatologists toward this concept on account of the discrepancy between the xanthomas and the blood cholesterol figure. This has been particularly true of xanthelasma, but reports are also available of subjects with xanthoma tuberosum multiplex who did not show any blood cholesterol excess, even after repeated examinations (Remer,[5] Rosenthal and Braunisch[6]). However, there is at least a good lead here, and I have used it in my work as the best available. By employing cholesterol and varying the experimental conditions, xanthoses may eventually be induced more regularly than in the past.

AUTHOR'S EXPERIMENTS

In the two preceding sections of this work, Sunderman and I[7] indicated a technic for inducing a hypercholesterolemia by intraperitoneal injection, and published a list of the normal blood cholesterol values, as well as the grades of hypercholesterolemia induced in the various animals. At that time we stated that we could induce approximately a 25 per cent increase in the blood cholesterol figure in all animals except rabbits, in which it was 50 per cent.

At present, after additional experience with intraperitoneal injections in dogs, the favorable impressions must be qualified by cautioning the reader against regarding the reported increases as entirely the effect of the cholesterol, per se. Thus, by this time, as will be brought out more fully later, there is reason to believe that a peritonitis follows such

5. Remer: Xanthoma, J. Cutan. Dis. **37**:344, 1919.

6. Rosenthal, F., and Braunisch, R.: Xanthomatosis and Hypercholesterinemia, Ztschr. f. klin. Med. **92**:429-441 (Dec.) 1921.

7. Weidman, F. D., and Sunderman, F. W.: The Normal Blood Cholesterol Figures for Man and for the Lower Animals, Arch. Dermat. & Syph. **12**:679 (Nov.) 1925. Sunderman, F. W., and Weidman, F. D.: The Experimental Induction of Hypercholesterolaemia, ibid. **12**:840 (Dec.) 1925.

injections. This can be of such a severe grade as to be succeeded by an infection which may well cause fluctuations in the cholesterol concentration such as occurs in pneumonia (Kipp [8]), and which could readily explain the moderate cholesterol increases reported previously. It is true that we did obtain a hypercholesterolemia, however induced; but the complicating peritonitis introduced a factor sufficiently disturbing to prevent the recommendation of this technic as a standard or routine for succeeding workers, in those cases in which an uncomplicated absorption of cholesterol is necessary. Feeding remains the method of choice, and rabbits are the animals of choice.

ANIMAL TISSUES

Series 1 (negative).—In the first series of hypercholesterolemic animals, scars were produced by means of incisions, not only at the laparotomy site, but also on the inside of the thighs. The animals thus treated were: two monkeys, two dogs, two cats, two rabbits and two guinea-pigs. Details of technic are recorded in preceding communications.[7]

As far as inducing xanthosis was concerned, the results were negative. As we cannot prove that these animals had a sufficiently high hypercholesterolemia, we are not justified in drawing any conclusions, even negatively, as to the production of xanthomas from this set of experiments.

Series 2 (positive).—In connection with an entirely separate experiment which involved tests of the protective value of cholesterol against pneumococcus infection in dogs, material was supplied for a second set of observations on xanthosis; whereas the experiments were aimed primarily at the pneumococcic phase, the outcome justifies the inclusion of the data here, because one of the dogs developed an extreme grade of xanthosis of the scrotum and elbows.

In the second series of tests the technic described previously was followed on four dogs, but larger quantities of cholesterol were used. Thus, up to 2 Gm. of cholesterol crystals were injected intraperitoneally at the first treatment, and up to 3 Gm. in emulsion at weekly periods thereafter, until one dog received as much as 7 Gm. of cholesterol in one form or another. The emulsion was the result of an attempt to secure a colloidal suspension, and it proved to be a fine one. A consistent hypercholesterolemia was not produced; there were fluctuations of such an irregular sort that the only permissible interpretations were theoretical and insufficiently grounded. Thus (table 1) apparently with each successive injection the initial hypercholesterolemic response became more and more feeble; whether it was a matter of impaired cholesterogenesis or of access to the blood stream is indeterminable at present. Records were kept of the course of the temperature and of the leukocyte count, as well as of the blood cholesterol concentration of all four dogs; records were likewise kept of two controls which did not receive cholesterol.

Results.—Whereas the outcome of the essentially pneumococcic work was negative, dog 3, which was the only one to develop a hemorrhagic peritonitis, also developed an extreme grade of edema of the scrotum; this was finaly referred to, and became the outstanding development of the cholesterol phase of the work. The parts were twice the normal size, sharply delimited from the surroundings, superficially ulcerated and covered by a thin, moist crust. Yellowing or opacity could not be detected grossly. The elbows showed similar.

8. Kipp, H. A.: Variation in Cholesterol Content of Human Serum in Pneumonia, J. Biol. Chem. **44**:215, 1920.

but less extreme, diffuse, yellowish red swellings. Frozen sections, stained by sudan III, did not disclose any true xanthoma cells of the large foamy type. The nuclei of the collagen bundles were hyperplastic and swollen, and the scanty cytoplasm around them was brought out in a most unusual and striking way by the presence of fat globules. It was not a fatty degenerative change, for the nuclei were splendidly preserved and the amount of fat was too extreme to be that of noncholesteremic granulating tissue such as Anitschkow described. The appearance was that of xanthoma tuberosum in a human being, shown in an illustration previously published (Weidman and Freeman[9]), i. e., a *xanthosis* developed in this dog that was histologically identical with that seen in early

TABLE 1.—*Blood Cholesterol Concentration; Pneumococcic Dogs*

	Pneumococcus Controls		Cholesterol Plus Pneumococcus		Cholesterol Controls*	
Date	Dog 1	Dog 2	Dog 3	Dog 4	Dog 5	Dog 6
Dec. 1	155 mg.	164 mg.	154 mg.	116 mg.	159 mg.	141 mg.
3	.....	.....	2 Gm. cholesterol	2 Gm. cholesterol	.....	2 Gm. cholesterol
5	153 mg.	.....	189 mg.	166 mg.	182 mg.; 2 Gm. cholesterol	172 mg.
7	156 mg.	160 mg.	153 mg.	148 mg.	166 mg.	157 mg.
9	Culture of pneumococcus	170 mg.	177 mg.	158 mg.	159 mg.	162 mg.
12	121 mg.	.....	168 mg.	185 mg.	194 mg.	182 mg.
15	.....	152 mg.	160 mg.	142 mg.	162 mg.	160 mg.
16	.....	.....	2 Gm. cholesterol	85 cc. of 2% emulsion	100 cc. of 2% emulsion	1.5 Gm. cholesterol
17	.....	.....	113 mg.	106 mg.	129 mg.	.....
20	.....	.....	Developed xanthoma of scrotum	141 mg.	.....	189 mg.
23	126 mg.	155 mg.	173 mg.	160 mg.	.....	176 mg.
29	.....	.....	146 mg.	150 cc. of 2% emulsion	.....	182 mg.
30	132 mg.	133 mg.	3 Gm. cholesterol	164 mg.	.....	1.5 Gm. cholesterol
31	.....	.....	141 mg.	160 mg.	.....	188 mg.
Jan. 6	.....	.....	.....	137 mg.	.....	156 mg.
8	132 mg.	.....	.....	140 mg.	.....	.....
12	.....	45 cc. pneumococcus culture intraperitoneally	50 cc. pneumococcus culture	3 cc. pneumococcus culture	.....	.....
15	163 mg.	169 mg.	179 mg.	141 mg.	.....	156 mg.
18	130 mg.	189 mg.	120 mg.	116 mg.	.....	143 mg.
21	182 mg.	165 mg.	163 mg.; 2 Gm. cholesterol	171 mg.	.....	191 mg.
23	147 mg.	142 mg.	.....	145 mg.	.....	175 mg.
26	143 mg.	.....	Death	.....	.....	122 mg.
28	.....	.....	.....	.....	.....	Killed

* The cholesterol was injected intraperitoneally; crystals were used at the first injection, and a 2 per cent emulsion was used at the succeeding ones.

stages of human xanthoma tuberosum, but it was no more the disease xanthoma than was the condition described by Anitschkow. At autopsy, one month later, the swellings of the scrotum and elbows had subsided, leaving circumscribed whitish patches.

In an attempt to control experimentally the possibility that the foregoing changes were degenerative and referable solely to the surface infection, the scrotums of dogs 4 and 5 were cauterized under ether. The edema was so transient, however, that conditions did not fairly parallel those of dog 3. However, while this control did not thus control, the xanthic changes were present

9. Weidman, F. D., and Freeman, W.: Xanthoma Tuberosum. Two Necropsies Disclosing Lesions of the Central Nervouos System and Other Tissues (colored plates *A* and *B*), Arch. Dermat. & Syph. **9**:149 (Feb.) 1924.

in the elbows of dog 3, at a position where there was not any ulceration, even superficial.

The severity of the peritonitis seen in this dog at autopsy should be emphasized. Both the parietal and the visceral portions were congested to the point of hemorrhage, and they were covered by fibrin and cholesterol granules. The cholesterol was distributed particularly heavily in the capsule of the liver; gray-white streaks extended here and there as though within lymphatic spaces. Material from such streaks consisted almost solely of cholesterol plates. The peritonitis should be regarded as acute; fibroses were not present, and 2 Gm. of cholesterol had been injected into the dog a short time previously.

HUMAN TISSUES (NEGATIVE)

As hypercholesterolemia, even of extremely high grade, occurs in pregnancy, diabetes, chronic nephritis and arteriosclerosis, a series of patients with these conditions were examined with reference to old scars, including those of vaccination, that might possibly show traces of xanthosis. The results were entirely negative. However, these were old scars; Anitschkow's were comparatively fresh. Accordingly, we induced fresh scars by performing biopsies on the arms of ten hypercholesterolemic volunteers. The blood cholesterol content was determined both before and after the biopsy. Developments in these scars were followed over a period of from two to three weeks, and in the case of two of the patients (D. S. and B. R.) for two years. Table 2 indicates the severity of the hypercholesterolemia and other circumstances.

TABLE 2.—*Scars in Hypercholesterolemic Patients**

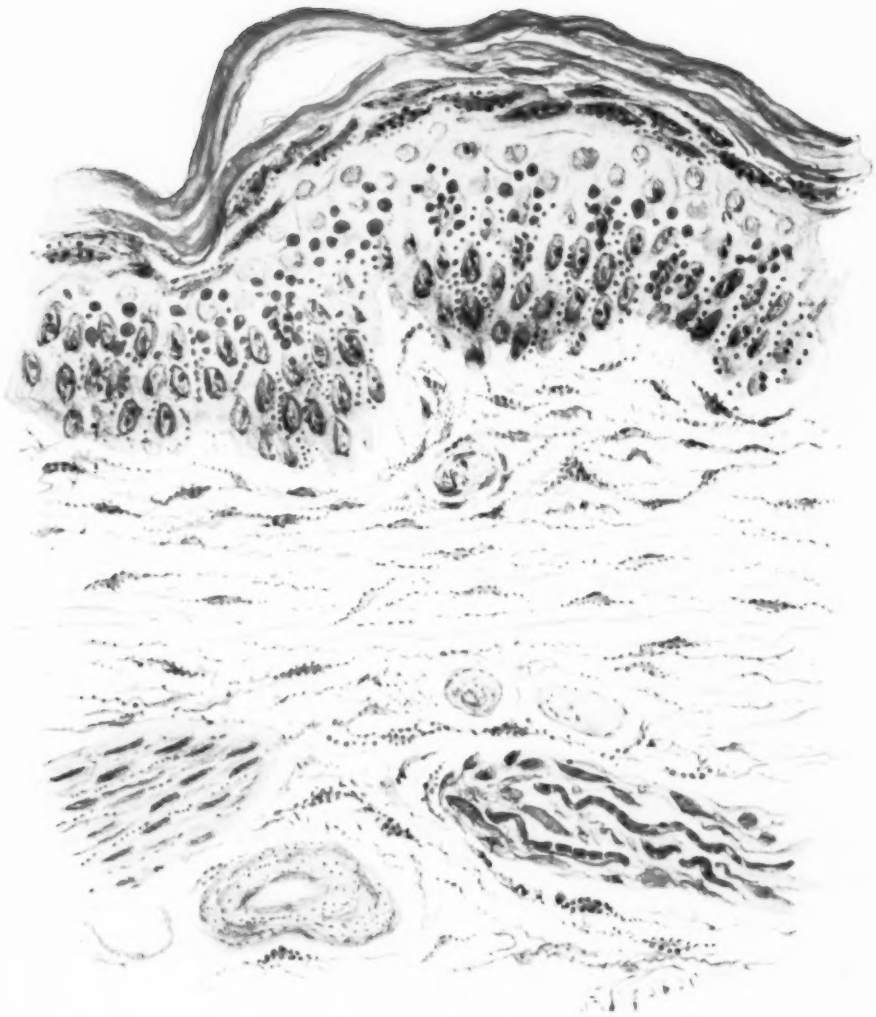
Name	Clinical Diagnosis	Blood Cholesterol	Biopsy	Xanthic Changes	Blood Cholesterol (Second Examination)
D. S.	Diabetes; gangrene of foot	(6/29) 306	7/10	7/24, negative 12/28/25, negative	(8/3) 282
S. P.	Chronic diffuse nephritis	(6/26) 298	7/10	7/24, negative	
E. B.	Diabetes, pulmonary tuberculosis, xanthoma tuberosum	(6/27) 307	7/15	7/24, negative	(8/3) 216
K. K.	Diabetes, xanthoma	(6/27) 371	6/27		
L. F.	Chronic nephritis	(6/29) 269	7/11	7/23, negative	
C. S.	Diabetes	(7/ 2) 569	7/15	7/24, negative	
M. F.	Nephritis, multiple sclerosis	(7/11) 448	7/13	7/24, negative	
E. K.	Arteriosclerosis, senility, chronic myocarditis, pulmonary tuberculosis, hypertrophic arthritis	(7/11) 264	7/13	7/24, negative	(7/24) 225
B. R.	Convalescent pneumonia, arteriosclerosis, senility, chronic myocarditis	(7/11) 373	7/13	7/24, negative 12/28/25, negative	
A. R.	Diabetes	(7/11) 270	7/11	negative	

* All dates as of 1923 unless otherwise noted.

In no case did anything suggestive of a xanthic change develop—this in the face of cholesterol values more than twice the normal. The normal skin secured at these biopsies was examined in each of the ten cases, and xanthoma cells were not discovered in any instance, in spite of the high blood cholesterol content of the patients. It will be observed that five of the ten patients had a disease that predisposes to xanthoma, i. e., diabetes mellitus.

COMMENT

The results of all these attempts, both on human beings and on animals, were negative, except in one dog. In the human cases there was an unquestionable hypercholesterolemia. This suffices to show that



Xanthic changes in scrotum of dog following intraperitoneal injections of cholesterol. The picture is almost identical with that of the earlier stages of human xanthoma lesions; comparison should be made with the colored plate of Weidman and Freeman" in which the presence of fat is again shown in both the epiderm and the fibroblasts. Some of the nerve fibers are solidly xanthic in the nerve trunk shown in the lower right hand corner.

the two factors, hypercholesterolemia (according to the present ideas of cholesterol, and as determined by the present technic) and young scar tissue, in simple combination, are insufficient of themselves in all cases to result in the development of xanthosis, much less in that of the diseases xanthoma tuberosum and xanthelasma. It is evident that in the "spontaneously" developing cases of xanthoma, at least some modification of one of these two factors, if not some additional factor, must be necessary; of the two, the first is by far the more likely from what is already known.

What modification? One of the first thoughts that comes to mind is the variability of cholesterol. Here is a substance, for instance, the exact chemical formula of which never has been determined, or at least universally accepted. In this substance it has been asserted that such special forms as isocholesterol and oxycholesterol (Lifschutz [10]) exist, as well as crystalline and colloidal states. (It has even been contended that cholesterol has properties [antirachitic] after being irradiated that it did not have before, although recently this has been questioned.) Beumer [11] found that there was an 8.1 per cent loss of cholesterol after ultraviolet irradiation for two hours; the inference is that the cholesterol was altered structurally. Certainly the approach to the chemistry of cholesterol is at present entirely too crude to lead to the solution of xanthosis. Indeed, one must go even further and realize that perhaps the cholesterol is playing but an accessory rôle and that other fatty substances play the principal parts. The dog in series 2 which developed xanthosis, never exhibited a definite hypercholesterolemia.

Of course, the other side of the situation, the vital status of the tissue cells, plays its part; but this metabolic phase cannot be approached with anything like accuracy. The receptivity of fibroblasts for cholesterol may well vary under varying circumstances at different times, or the capacity of fibroblasts for cholesterol synthesis may underlie the situation (Dezani,[12] Leupold and Ziesser,[13] Weidman and Sunderman [14]).

After the observation in histologic sections that the cells adjacent to the blood vessels are particularly heavily infiltrated, it might have been surmised that xanthosis takes place only where there is an ample exudation of material from the blood vessels, i. e., more or less edema, such as occurred in the dog's scrotum.

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10. Lifschutz, J.: The Quantative Differentiation Between the Cholesterol Substances, Biochem. Ztschr. **62**:219, 1914; **54**:217, 1913.

11. Beumer, H.: Problem of Rickets and Action of Ultraviolet Rays on Cholesterol, München. med. Wchnschr. **72**:1585 (Sept. 18) 1925.

12. Dezani: Arch. di farmacol. sper. **12**:4, 1914.

13. Leupold and Zeisser: Cholesterol Metabolism, Arch. f. Gynäk. **119**:552 (Sept.) 1923.

14. Weidman, F. D., and Sunderman, F. W.: Cholesterol Synthesis and Hypercholesterolemia, J. A. M. A. **86**:571 (Feb. 20) 1926.

It will at once occur to the reader that the cholesterol that reached the blood circulation by way of the intestinal tract in Anitschkow's experiment traversed a greater variety of chemical lanes *intra vitam* than that in our animals (intraperitoneal avenue). Since Anitschkow was more successful than I was in inducing skin lesions (cholesterol introduced by feeding versus parenterally), this would further argue for the idea that the cholesterol should exist in some particular or peculiar form before it can induce xanthoma cells.

CONCLUSIONS

1. The term xanthosis should be generally adopted and used to indicate the yellowing change, cutaneous or otherwise, that is due to an infiltration of cholesterol and related lipoids. Xanthoma tuberosum multiplex, xanthoma planum and xanthoma en tumeurs are expressions of the process which have additional features that make them distinctive clinically—clinical entities; in this instance the term xanthosis is superfluous, except to denote the basic pathologic process, but in other cholesterol infiltrations the term is quite applicable. Attention is called to the fact that xanthoma cells are not pathognomonic of the xanthomas; they are also seen in local xanthoses, as catalogued by Stewart.

2. In my study, xanthic changes were not found in either young or old scars of hypercholesterolemic patients with diabetes, nephritis and arteriosclerosis.

3. Attempts to reproduce xanthoma cells in experimental animals by producing a hypercholesterolemia by the intraperitoneal route failed, except in one dog which developed an edematous scrotum.

4. The explanation of this failure may be in the varying forms which cholesterol may take (oxycholesterol, isocholesterol, irradiated cholesterol, etc.). Some factor in addition to the mere presence of hypercholesterolemia and young connective tissue cells is necessary to the development of xanthoma tuberosum.

5. In xanthoma cases of the future in which there is not hypercholesterolemia, the lipoids of the cutaneous lesions should be tested to see whether they, too, fail to give an increased Lieberman-Burchard reaction. This will aid to settle the question whether other blood lipoids must be employed in future researches.

6. Genuine xanthomas have not yet been reproduced experimentally. A reexamination of Anitschkow's widely known experiments discloses that he did not reproduce any of the xanthomas; he induced an experimental xanthosis in rabbits. This report confirms Anitschkow's work in the experimental production of xanthosis in a dog injected intraperitoneally with cholesterol.

A PURIFIED COAL-TAR OINTMENT FOR THE TREATMENT OF INFANTILE ECZEMA *

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The use of coal tar in the treatment of cutaneous diseases, although vaguely known for many years, was first specially mentioned in modern times by Fischel [1] in 1894. Several years later it was in vogue among members of the dermatologic profession, and a number of writers reported on its use. Among these were Sack [2] (1896), Leistikow [3] (1900) and Dind [4] (1906). The latter probably was the first to call attention to its beneficial effect in cases of infantile eczema. Brocq [5] (1909) wrote an excellent summary of previous work and included an account of his own experiences with the drug. Since then other authors have mentioned it from time to time, including Whitfield [6] in England, in 1911, and White [7] in America, in 1918.

Crude coal tar is now widely used in the treatment of infantile eczema, and the prompt and striking relief which it so often brings about in cases of this type is gratifying. It has two drawbacks however: the tendency to cause folliculitis on the skin, and undesirable staining and sticking properties. It seemed probable to us that these might be eliminated if the active ingredient of the coal tar could be separated from the crude material. Accordingly we undertook to isolate this active principle and at the same time to obtain a clean and efficient preparation for practical use.

It is generally known that coal tar is a complex and variable mixture of many organic compounds. The variations in the local conditions for the destructive distillation of coal, such as the source of the

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* From the Section on Biochemistry, Mayo Clinic.

1. Fischel, L.: Ein neues Teerpräparat, Monatsch. f. prakt. Dermat. **19**:189-190, 1894.

2. Sack, Arnold: Ueber die Löslichkeit des Steinkohlenteers in verschiedenen Flüssigkeiten und über die therapeutische Verwertung dieser Lösungen, Monatsh. f. prakt. Dermat. **23**:470-477, 1896.

3. Leistikow, quoted by Brocq (footnote 5).

4. Dind, quoted by Brocq (footnote 5).

5. Brocq, L.: Le goudron de houille brut en dermatologie, Ann. de dermat. et syph. **40**:1-21, 1909.

6. Whitfield, A.: Eczema, Syst. Med. **9**:300-327, 1911.

7. White, C. J.: The Treatment of Eczema in Childhood, Boston M. & S. J. **175**:5-15, 1918.

coal, the type of by-product retorts and the temperature of distillation, affect the final product to such an extent that it may be almost devoid of beneficial effect in infantile eczema. Therefore, all of the tar used in these experiments was obtained from the same source of supply.

In this preliminary work we have concerned ourselves only with the separation of the crude coal tar into two fractions: the one volatile with steam, which we have used in the form of ointment; the other consisting of the black, viscous, residual pitch. The separation was accomplished in the following manner: One liter of the crude coal tar is placed in a 3 liter distilling flask and distilled, by passing through the hot solution a rapid stream of steam until no more oil appears in the distillate. This product is then redistilled by steam to insure the removal of any contaminating residual pitch which may have been carried over mechanically during the first distillation. The volatile semisolid oil is extracted with ether and filtered through dry filter paper, and the ether is removed. Further work in the purification of this heterogenous residue can be done to separate the various hydrocarbon and phenolic substances of which it is composed, but for the present we are using it in this form.

The ether-soluble portion was mixed into various ointment combinations, the most efficacious of which was composed of (1) ether-soluble tar distillate, 3 parts; (2) pulverized zinc oxide, 30 parts; (3) starch 50 parts, and (4) yellow petrolatum 120 parts. It was found important to mix the distillate thoroughly before adding it to the other ingredients and to incorporate it evenly with the ointment.

This preparation was used in twelve cases of infantile eczema. It was as efficient as the original crude tar ointment and did not have the undesirable staining properties of the latter.

ILLUSTRATIVE CASES

CASE 1.—A girl, aged 6½ months, was admitted with an oozing, crusted infantile eczema on the face, scalp and parts of the trunk. The crude tar ointment recommended by White, in half strength (crude tar, drachms 1 [3.9 Gm.]; zinc oxide, drachms 1 [3.9 Gm.]; starch, ounces 2 [62.2 Gm.]; petrolatum, ounces 2 [62.2 Gm.]) was applied to the right side of the face and the purified tar ointment to the left. A few days later the child's face was greatly improved, all oozing and erythema having disappeared. The original half strength crude tar ointment was then used over both sides and the next day a rather annoying folliculitis was noticed. The black tar was then discontinued, 3 per cent ichthyol in zinc oxide ointment being used instead, and within a few days the oozing eczema had returned. We next decided to try the two tar preparations again, this time applying the crude tar on the left and the purified tar on the right. Within forty-eight hours the face and scalp were once more greatly improved and there was not any oozing or irritation. By the next day, however, folliculitis had appeared on the left side. The purified ointment was then applied to the entire skin with subsequent disappearance of both eczema and folliculitis.

CASE 2.—A baby boy, aged 21 weeks, was brought to the clinic on account of an acute oozing infantile eczema of the face and scalp that had been present two months. The mother was given a supply of the half strength crude tar ointment for the left side of the face and scalp, and of the purified tar ointment for the right side, and asked to return with the child in one week. At the end of the week the infant's face and scalp appeared practically well except for slight roughness of the skin. Erythema, oozing and itching were not present. Difference was not noted in the appearance of the two sides.

It was noticed in these cases that the purified tar ointment was most effective in the acute and oozing types of eczema, an observation that had previously been made with regard to the crude tar. In all cases dietary corrections were made when indicated.

SUMMARY

A substance containing the active principle responsible for the beneficial action of crude coal tar in cases of infantile eczema has been removed from the crude product by steam distillation. An ointment free from the tendency to cause folliculitis and the disagreeable staining properties of crude coal tar has been made from this separated product. Further work is being carried on in an effort to single out the more active constituents of this mixture.

ACTUAL SUPERFICIAL THERAPY BY "GRENZ" (INFRA-ROENTGEN) RAYS

ITS CORRELATION WITH INTERNAL ORGANS *

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NEW YORK

In roentgen-ray therapy the interest in recent years has been directed almost entirely toward influencing the deeply lying organs. To a certain extent, this may explain why other branches were neglected, so that, for instance, the subject of superficial roentgen-ray therapy was considered more or less closed. In the last few years, interest has been focused more on the biologic problems than on the physical, which could be foreseen. One of the later questions is the fundamental point as to whether there is a different biologic action with different wave lengths, and this basic problem has to be considered as unsolved up to now, in spite of the fact that at present the majority of authors incline to the opinion that the biologic effect depends only on the absorbed ray energy.

But in discussing the topic under consideration, this problem is relatively unimportant. My Grenz-ray [1] method, however, should be superior to the former superficial therapy methods, setting aside the question whether or not with certain wave lengths a specific biologic effect appears. The aim is to create flawless conditions for the generally valid law of ray therapy, which states that with the radiation of diseased tissue one must avoid affecting the healthy tissue in any way.

Four fundamental conceptions of my new method can be summarized as follows:

1. Any treatment is ruled by the fundamental general law, "nil nocere," because any healing process is based on and created by the action of the surrounding health and properly functioning cells. Therefore, any unnecessary influence on the healthy tissue should be avoided.

2. With the usual method of roentgen-ray irradiation of the skin, from 60 to 95 per cent of the applied or incident energy penetrates the skin and is absorbed in deeper layers according to the half value absorption value of the wave length used (from ¾ to 2 mm. aluminum). These layers not only are stricken unnecessarily but also are influenced and probably paralyzed in their curative reaction. For the skin, the

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* Read before the Section on Dermatology and Syphilology of the New York Academy of Medicine, February, 1926.

1. The name intends to emphasize the differences of the biologic actions. In fact the Grenz rays (borderline rays) create biologic effects which stand in the middle between those of ultraviolet and roentgen rays. The name Grenz rays is already accepted in the European literature.

subepithelial and subcutaneous layers (basal cells, etc.) are the sources of healing and reconstruction. This is the fundamental conception of the so-called Grenz-method.

3. A proper distribution of the absorption corresponding to this cognizance was found physically and verified by new biologic effects with wave lengths longer than about 1.8 Angström units (corresponding voltages lower than 10 kilovolts). This means that the ray beam should not contain shorter wave lengths (corresponding higher voltages).

4. The latter statement contains the principal and fundamental difference from former experiments performed by other authors in which higher voltages (shorter wave lengths) were applied so that the maximum of energy in the spectrum was located in the region of much shorter waves and the energy of the qualities in question was increased to a certain extent only but always mixed with preponderant energy of shorter waves.

The ray beam of the usual roentgen-ray tube, produced with one of the usual apparatus, is not adaptable for these purposes, as the glass wall of the tube absorbs practically all of such soft rays on account of the silicate contents of the glass. Nowadays apparatus create intentionally the maximum energy in much harder wave spheres. The energy of oversoft radiation which may be produced with the usual tube is biologically more or less ineffectual. To enable those soft rays to leave the tube in a sufficient amount one must use a special glass which was first developed by Lindemann Brothers. The constituents of this glass excel by their low atomic weight and have, therefore, small power of absorption.

In former times Lindemann glass tubes were used with some of the usual apparatus, but with them the energy distribution of the ray spectrum was only slightly changed, because the used tensions always produced hard rays simultaneously. Then, on the other hand, the maximum of energy was always in the harder sphere, and the energy of the soft rays was always comparatively small and negligible. It is evident that under such conditions the aims previously stated could not be accomplished. I want to emphasize that this fact changes fundamentally the biologic conditions, because the new way is to be sought in the biologic and not in the technical conception. The only way, therefore, is to make use of tensions only, the maximum of which produces such soft rays that they are absorbed almost entirely by the upper skin layers. Numerous experiments and measurements made in collaboration with Dr. Glasser proved that for this purpose the tension should not exceed about 10 kilovolts. The physical data will be given later by Dr. Glasser.

Franz Schulz and Zehden in Germany, and S. Stern in New York, worked in former times with very soft roentgen rays. The few quali-

tative notes made by Schulz and Zehden refer to the spark gap and Wehnelt degrees. They used a spark gap of about 1½ cm. between point and plate, but the notes in Wehnelt degrees show that the wave lengths produced were able to penetrate 1 mm. of aluminum with such an intensity that they created a fluorescence of the fluoroscopic screen sufficient for optical comparison. On the contrary, a radiation produced with a tension of 10 kilovolts has a half value absorption of about 0.5 mm. aluminum and 0.7 mm. water. It was therefore out of the question to speak of saving the germinative layer of the skin with the rays used by the previously mentioned authors. As far as I know, Dr. Stern used tensions of about 10 kilovolts which, therefore, would still be above the border of 10 kilovolts just mentioned.

The theoretical conceptions were made probable by new biologic appearances, and may even be proved by them. It seems to be contradictory that when the upper skin layers are influenced an erythema should appear, because these layers do not contain blood vessels. It was repeatedly emphasized in the literature that the proper biologic point of affection by the roentgen rays had to be sought in the vessels, which, especially in the earlier stages, really showed the main changes when examined microscopically. But there is also a possibility of producing an erythema in a collateral way. If, for instance, a very small drop of a concentrated acid is applied to the skin so that it is entirely neutralized chemically by the stratum corneum and does not reach deeper cells, one observes, in spite of this, a reactive inflammatory redness. It may be possible to differentiate between two different erythemas, a direct one in which the vessels are actually affected, and an indirect one in which the damaging force does not reach the vessels. This possibly may be the explanation, when one is working with infraroentgen rays, for the nonappearance of those skin changes which are usually observed after extensive roentgen-ray treatments.

The following observations were made with the Grenz rays. The erythema can show an unusual dark red shade with a marked tint of brown. The latent time can be markedly shortened, but it depends on the applied dosage. In some cases persistent erythema was seen immediately after treatment, but in others its appearance was not noted until five weeks later. Generally it lasts from one to two weeks. It is also possible to originate blisters and ulcerations, but these are entirely harmless as they are not painful and as they heal entirely in the course of from three to four weeks. With all these appearances the patient never feels anything more than a sensation of itching. When the uppermost layer of the skin is missing, there is, naturally, a feeling of soreness, but never anything more. A new type of blister formation was noticed, in the form of minute pinpoint blisters which were spread over the entire irradiated field. The ulcerations show an easily removable dark brown-

ish crust, but they are never malodorous. There is a strikingly marked pigmentation which may originate after a few days only. Epilation does not take place with usual dosages. Therefore, the law which states that epilation can be produced by smaller dosages than erythema does not apply with such rays. Changes following roentgen-ray treatments, such as atrophy, scars and telangiectasis, have not been observed, though the oldest cases go back three years and have been carefully observed. Some of the patients received dosages which were followed by ulcerations, but always regeneration of normal skin occurred, the skin being first thin, light and slightly shiny, but becoming entirely normal in character after some time. Naturally border lines must exist where eventually, with higher tensions, telangiectasis must originate. This border was found between 12 and 15 kilovolts. The intensity plays a subordinate part in it. Two parallel cases were of interest, both of them showing blisters. One was treated with 9 and the other with 15 kilovolts. After a year and a half the 15 kilovolt case showed extensive telangiectasis, whereas the patient treated simultaneously with 9 kilovolts showed an entirely normal skin after the same time.

The experiments on animals, mice and rabbits, were also interesting. An erythema could not be produced in spite of a forty fold overdosage. However, the work done in collaboration with Buschke and Sklarz was unsatisfactorily performed on account of the imperfect technical condition at that time.

The practical advantages of the method consist of the following points: (1) probability of absolute safety; (2) possibility of replacing changed skin with normal; (3) markedly shortened healing period; (4) remarkable cosmetic results; (5) lack of danger of repeated irradiations, and (6) new indications (as the influencing of internal organs by the skin).

Up to the present, the following skin diseases were successfully treated: eczema of different kinds, acne rosacea, lichen planus and pruritus ani. Psoriasis reacted also but recurred after a strikingly short time.

Of the infectious diseases the following reacted well: lupus, trichophytosis, sycosis, herpes tonsurans, kerion celsi, paronychia, angulus infectiosus and carbuncle; of the tumors: warts, mycosis fungoides, kaposi's disease and epithelioma. Comparatively thick tumors also react very well, even if there seems to be a disproportion in the layer thickness and the penetration of the rays. Much observation will be necessary for the explanation of these appearances, and especially also of the reaction of the infectious diseases.

New indications may arise for diseases of the eye and of the larynx, on which I am now working. No doubt the range of such a skin therapy with new biologic conceptions cannot be correctly estimated at present.

However, there are some other biologic observations which may be of still greater value, dealing with the correlation of the skin with the inner organs. I refer to E. F. Mueller's experiments showing that intracutaneous injections of any indifferent matter, such as water or air, produce changes in the autonomic nerve balance between the skin and the splanchnic organs. In collaboration with him I made use of Grenz rays for skin irritation, and by that means the experiments were brought to a much broader and more exact basis, because we excluded mechanical, chemical and nerve irritations. With this method I also control the irritation, according to intensity, time and size of the field. Neither harder roentgen rays nor ultraviolet rays give any definite results; but with the Grenz rays a dosage of about one-twentieth of an erythema dose produces unquestionable effects. Such a ray energy applied to the surface of the skin about 1 sq. cm. in area produced a typical drop in the leukocyte count of about one third of the original value with an increase to normal again during the next half hour. The blood was taken from a location far away from the irradiated part. (In my cases it was taken from the lobe of the ear and the forearm was treated.) Mueller and Petersen have shown that with the drop in the leukocyte count in the skin an increased permeability of the splanchnic vessels takes place. They also showed that the leukocytes are not destroyed but are only removed from the skin to the liver. Consequently, there is a sympathetic stage of the skin and a parasympathetic stage of the splanchnic region. The opposite is caused by an intracutaneous injection of insulin, and this reversion of the effect probably proves the existence of a steerage center of the autonomic nerve balance between the skin and the splanchnic region. A leukocytosis of the skin is then obtained; i. e., a parasympathetic stage of the skin and a sympathetic stage of the splanchnic organs.

Looking backward it may be possible to explain many clinical symptoms in this mechanism. Skin burns, produced by sun or by heat are often accompanied by intestinal hemorrhages, vomiting, diarrhea and albuminuria. Ulceration of the stomach and intestines, with their analogous appearances, show also a certain relationship to the skin, as, for instance, the pain areas and other nervous symptoms. All these facts point to the nervous origin of these diseases. Relying on these ideas, I treated with Grenz rays patients with ulcer of the stomach and intestines; in these cases skin areas of the trunk were chosen, regardless of their relationship to the internal organs. The results were astonishing, as the acute symptoms disappeared almost instantaneously. Medication was not used. A gain in weight of from 2 to 4 pounds (0.9 to 1.8 Kg.) was observed regularly with ambulatory treatment. However, the clinical observations with these diseases may be more or less subjective. The conditions are different though, in other diseases.

Influenced by the correlations between skin and bone marrow, I treated with Grenz rays a patient who had polycythemia, as the harder rays had not produced any reaction. It was interesting and characteristic to note that the patient was suffering from a duodenal ulcer at the same time. The result was that in the course of six weeks all the subjective symptoms had disappeared. No medication whatever was used. The number of red cells was diminished from 7,600,000 to 4,900,000; the hemoglobin, from 150 per cent to 105 per cent.[2]

It is also important to mention pruritus, a disease which was recently proved to have a connection with the liver. It was astonishing that with the Grenz rays a result was usually obtained with much smaller dosages than with the harder rays. I cannot go into details, but I want to mention cases of peritoneal tuberculosis, irritation cough in children without any provable etiology, diabetes, angina pectoris and asthma bronchiale merely to show how wide the field of indication may be, and to emphasize the assumption that some of the results in deep therapy may be looked on as an effect on the skin only.

As there is interference here with the indications of the ultraviolet rays, a few short words may show the difference in the mechanism of their action. Hausser proved incontestibly that only a rather narrow sphere of the ultraviolet spectrum produced erythema, and he explained this fact with the relations between the wave lengths and the atomic weight. The depth effect, therefore, is then as sharply circumscribed as is the biologically effective wave sphere, because the penetration is a function of the wave length.

On the other hand, with the Grenz rays, one is really in a position to change exactly the dosage from 0.1 mm. to 0.1 mm. in depth by varying the tension. I withhold further particulars for later publication, but present results show that this treatment is entitled not only to play an important part in healing methods, but also to develop a new perception of physiologic and pathologic processes.

SUMMARY

1. Electromagnetic oscillations of wave lengths of about 2 Angström units produce new biologic effects.

2. These rays are entirely harmless because with the proper technic they are absorbed by the upper layers of the skin saving the germinative layers.

3. The Grenz rays will replace the roentgen rays in dermatology to a great extent.

4. The results of this therapy in disturbances of the autonomic nerve system and endocrine secretion are promising.

2. Later on a second patient was treated and there was a reduction of the red cells from 10,000,000 to 6,000,000.

FUSOSPIRILLARY DERMATITIS

ITS OCCURRENCE IN ACUTE PELLAGRA *

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The principal cutaneous and mucous membrane lesions in which fusiform bacilli and spirochetes are found are well known. Their causative relationship, from a primary infective point of view, to such diseases as Vincent's angina, ulceromembranous stomatitis,[1] erosive and gangrenous balanoposthitis, noma,[2] putrid pneumonia and gangrene of the lung,[3] would seem well established. However, it is still maintained by many that in most instances these organisms are but secondary invaders of tissue already injured or diseased. In fact, such conditions as ulcus tropicum, hospital gangrene, mercurial, bismuth and arsenical sore-mouth and certain putrid and gangrenous lesions are almost certainly the result of secondary invasion by these symbiotic "opportunists." In these conditions an orginal solution in continuity of the skin or preexisting disease has so often been determined before marked inflammatory symptoms have developed that there can be little doubt concerning their secondary character. On the other hand, whether primary or secondary, the favorable response of many of the lesions in which fusiform bacilli and spirochetes are found to certain therapeutic agents is sufficient evidence of their pathogenicity. Under such therapeusis the organisms disappear, and the lesions improve.

One of the chief characteristics of lesions in which the symbiotic organisms of Vincent abound is the highly offensive putrefactive odor emanating from them.

REPORT OF CASES

CASE 1.—*Fusospirillary dermatitis with ulceration of external ear.*

A negro construction worker, aged 18, who was referred to the skin clinic [4] for diagnosis of his condition, complained of a pain in and a discharge from the right ear with diminished hearing of seven weeks' duration. The pain was not severe enough at any time to cause restlessness during the night.

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* From the Research Institute of Cutaneous Medicine.

1. Davis, D. J., and Pilot, I.: Studies of Bacillus Fusiformis and Vincent's Spirochete, J. A. M. A. **79**:944 (Sept. 16) 1922.

2. Weaver and Tunnicliff: J. Infect. Dis. **4**:8, 1907.

3. Rona: Arch. f. Dermat. u. Syph. **74**:171, 1905.

4. From the ear clinic of Dr. Walter Roberts and the skin clinic of Dr. Jay Frank Schamberg.

Two weeks prior to the aforementioned symptoms, the patient had had a severe cold in the head and chest, but was not confined to bed. His throat was not sore at the time. The cold had disappeared when the ear symptoms began. The only relevant fact in his past medical history was that there had been a purulent discharge from the right ear three years previously, which had lasted one month, and which had readily responded to treatment.

Physical Examination.—A profuse, fetid, serosanguinous discharge was found in the right external auditory canal and a moderately deep ulceration extending down to the region of the drum was found on the floor of the cartilaginous meatus. The floor of the ulcer was red and was covered with small granulations. A thickening of the underlying tissue was not apparent, although the edges of the ulcer were slightly elevated. The ulcer was tender and bled easily. It was not possible to view the tympanic membrane properly, and although it was red in appearance, it was not possible to determine whether or not there was perforation. The general physical examination did not reveal anything abnormal.

Laboratory Examination (Miss Kast).—A small amount of the almost entirely serous discharge from the floor of the ulcer was examined with the dark-field microscope. The specimen was literally loaded with spiral organisms almost to the exclusion of other organisms. Roughly, the spiral organisms averaged from 30 to 50 per field in the clear portion of the preparation, and many surrounded and appeared to be coming out from some highly refractive clumps of material. These clumps later proved to be masses of cocci and short, thick bacilli.

All free spiral organisms were extremely active, exhibiting unusually rapid forward and backward movements. Those having one end attached to solid particles possessed active lateral swaying motion. After several hours they became slightly less motile, so that their morphology could be observed more easily. The microdentium type averaged from 1 to 3 per field; the macrodentium, from 3 to 5 per field, and a coarser form, the buccalis type, from 15 to 20 per field. Forms whose morphology might be considered intermediate between the macrodentium and the buccalis type also averaged from 15 to 20 per field. The morphology of the microdentium and the macrodentium was similar to that found in the normal mouth. The coarser buccalis form showed double refraction; the curves were shallow, few in number and extremely flexible, almost straightening out, in extremely active stages, thus lengthening the long axis of the body. The length of this form varied from 7 to 15 microns, and its width was about 0.6 of a micron. The number of curves varied from three to seven.

The intermediate forms consisted of some individuals showing double refraction, but with the deeper and more rigid curves of the macrodentium type; others, which did not appear to be doubly refractive, possessed the shallow, flexible curves of the buccalis type.

The fusiform bacilli averaged from 3 to 5 per field, occurring usually in pairs end to end. Two morphologic types were observed. The slender, spindle-shaped type contained highly refractive bodies and a slightly thicker type of uniform structure. Some organisms did not show motility; others, however, especially some of the thicker types, exhibited such a rapid, darting movement both forward and backward, that it was almost impossible to follow the organism through the field. When such an active form encountered a clump of solid material, it usually stopped abruptly, piercing through the material with the pointed ends. End filaments could be seen on some of the coarser forms of the spiral organisms and also on some of the fusiform bacilli.

A leptothrix organism averaged from 1 to 2 per field. It was about 12 microns in length and at least 1 micron in width. It showed a peculiar, sluggish forward and backward movement. None of the longer leptothrix forms commonly present in mouth infections was seen.

Giemsa stained slides showed organisms which correspond with the typical descriptions of the spiral organisms and fusiform bacilli found in Vincent's angina. Inoculations in guinea-pigs were not made, and the inoculation of some of the discharge into special anaerobic mediums did not give suitable cultures for further work. The blood Wassermann and Kahn reactions were both negative.

CASE 2.—*Fusospirillary dermatitis of hands complicating fusospirillary stomatitis and fusospirillary vulvitis.*

History.—A well nourished negress, aged 32, a servant, whose chief complaint was a sore mouth, was admitted to the Polyclinic Hospital, service of Dr. Albert E. Roussel, to whom I am indebted for permission to report this case. Her condition, which she said began two or three days before admission, had followed the development of a sore throat with vomiting. Subsequently, the entire mouth, including the tongue and gums, began to feel rough, dry, painful and tense. Bleeding from the mouth followed. The condition rapidly became so severe that she could not chew or swallow, on account of pain and tenderness and inability to open her mouth fully. The patient did not complain of the scaly eruptions on the forearms which were of two weeks' duration, and which she said followed the use of lye. Repeated questioning failed to change the statement regarding the duration of the cutaneous disturbance, and the patient insisted that she had never had an eruption on her skin previous to the present condition. The only other interesting facts in her history were that she was born in New Jersey and had lived there and in Philadelphia all of her life; that she indulged freely in alcohol and that for the last two months she had been more or less constantly intoxicated. The only additional complaint was a burning sensation when she urinated.

Physical Examination.—The patient did not appear to be very sick or in great pain, although she was not mentally alert, being more or less apathetic. The impression was not altogether that of a postalcoholic or interalcoholic debauch. However, she seemed intelligent enough in her replies when first seen.

The temperature was 100 F. and the pulse rate 96. This temperature and pulse rate were maintained about the same for almost three weeks; at the end of this time there was a corresponding elevation in temperature to over 102 F. and in pulse rate to 120, respectively. This elevation slowly increased until death seven days later.

The lips were dry and cracked and covered with crust here and there. Crusted, fairly deep fissures were present at both buccal commissures, and there were similar, although not so deeply fissured, lesions at the nasolabial grooves. The patient, despite considerable urging, could not open her mouth more than about an inch. The tongue, protruded through this small orifice, was red, and appeared slightly swollen and extremely dry; on its surface there were several flakes of desquamating epithelium. The labial and visible buccal mucosa was covered with diphtheroid erosions; the gums were red and bled easily. Definite ulceration was visible, although not its extent, in the region of the rear molars. Various sized pseudomembranous deposits were present over the entire visible buccal mucosa. Salivation was not marked, but there was a distinctly fetid odor. Neither the tonsils nor the pharynx could be examined satisfactorily. The cervical lymph nodes were enlarged and slightly tender.

Over the extensor surface of the left forearm and wrist and over the dorsum of the hand there was a dry, scaly, slightly thickened, well defined area of eczema. A much smaller patch was present on the right forearm over the olecranon process and on the dorsum of the forearm. In the webbed areas of the hands there were slightly oozing fissures. The whole gave an offensive odor. Later, this offensive odor from the hands became extremely marked, but was uncontrollable, even with strong permanganate dressings. How this condition began is not clear. The patient said that it followed a burn with lye.

The results of the general physical examination were otherwise negative, except for the presence of a fairly marked, yellowish-white vaginal discharge. In addition to the fetid odor from the vulval regions, about two weeks after admission there developed a tender area of erosive dermatitis with festooned borders, which spread, covering the vulva and both sides of the thighs, for from 5 to 6 inches (12.7 to 15.2 cm.) or more. The vulval dermatitis was typical of the superficial form of the condition described by Berdal and Bataille in the male, under the term circinate erosive balanoposthitis. This erosive dermatitis spread gradually until death occurred. A number of painful, bloody ulcers were present on the inner surface of the vulva.

Course of Illness.—Three days after admission to the hospital, the patient complained of pain in the left hand, and on examination two blebs the size of a bean were found, one on the inner side of the thumb and one on the outer side of the index finger. As these enlarged, new blebs developed on the left palmar surface, and by the fourth day after the onset of the original blebs, new ones had developed on the right hand in the webs between the thumb, index and ring fingers. The blebs enlarged slowly. Some coalesced, so that finally almost the entire palmar epidermis had been lifted up. Beneath, where the blebs had been opened and where the dead epidermis had been torn away, a raw ulcerating condition was found. A single bleb on the right forearm near the wrist, which developed rapidly and enlarged, eventually led to denudation of the entire flexor surface of that wrist.

About twelve days after admission, the patient developed a severe diarrhea, which persisted for about ten days.

The apathetic condition of the patient did not improve, except temporarily. She appeared to become definitely toxic coincident with the elevation of temperature and pulse one week before death, which took place four weeks after admission. Death occurred in a little less than six weeks.

Laboratory Examination.—Urinalyses on several occasions were normal. Complete blood counts on Aug. 7, 1926, showed red cells, 4,820,000; white cells, 7,000; small leukocytes, 18; large leukocytes, 3, and polymorphonuclears, 79; on August 25: red cells, 2,310,000; hemoglobin, 45 per cent; white cells, 9,250; small leukocytes, 33, large leukocytes, 6; polymorphonuclears, 56, and eosinophils, 2; on August 26: red cells, 2,800,000; hemoglobin, 50 per cent; white cells, 8,900; small leukocytes, 15; large leukocytes, 9; polymorphonuclears, 71, and eosinophils, 5.

The blood chemistry and blood culture, as well as the blood Wassermann and Kahn reactions, were negative. On August 5, 24 and 26, the smears of the mouth were positive for Vincent's organisms; on August 24 and 26, the smears of the vulva were positive for Vincent's organisms, and on August 24 and 26 the smears of the hand were positive for Vincent's organisms.

Dark-Field Studies.—These studies were made on the fluid from the blebs on the hands on several occasions. The microscopic studies noted under case 1 were similar to the present ones and need not be discussed again. Inoculation experiments were not performed in either case. However, since Koch's postulates do not appear to have been fulfilled in any form of Vincent's disease as yet,

conclusions as to the etiologic rôle of these organisms has always been based on the clinical and laboratory evidence. Anaerobic cultures were made, unfortunately, the day following an intravenous injection of neoarsphenamine and but shortly before death. It is probable that failure to obtain either spirilli or fusiform bacilli in culture was due to the arsenical medication, since a dark-field examination made just before the culture was taken showed a marked decrease in the spirillary organisms, as compared to the previous examination.

Autopsy (Dr. Eugene E. Case).—At autopsy the following conditions were found: catarrhal conjunctivitis; extensive dermatitis of the skin about the nose and mouth, of the forearms and hands and about the vulva; ulcerative stomatitis; ulcerative vulvovaginitis; parenchymatous degeneration of the heart muscle; congestion and edema of the lungs; lobular pneumonia of the right lung, lower lobe (small patch); acute splenic tumor; marked cloudy swelling of kidneys; marked cloudy swelling of liver; right hydrosalpinx, and chronic gastritis.

The histologic diagnosis was: parenchymatous degeneration of the heart; congestion, edema and bronchial pneumonia of the lungs; acute inflammation of the spleen; parenchymatous degeneration of the kidneys and of the liver; non-suppurative lymph adenitis of the retroperitoneal lymph nodes; bullous and ulcerative dermatitis of the skin, and little, if any, histologic changes in the stomach. Levaditi stained sections of the diseased skin were made, but did not reveal any spirochetes in the tissue. The brain and spinal cord were not examined.

REVIEW OF THE LITERATURE

The normal habitat of fusiform bacilli and spirochetes of Vincent appears to be particularly in the tonsils, the tartar of the teeth and around the genitals.[1] However, it has been shown that these organisms are not infrequently found in secretions from the ear. According to Bacon,[5] spirilli were found in secretions from the ear in forty-three of 2,834 cases examined. These studies were later confirmed by Pilot and Pearlman,[6] who further ascertained that chronic fetid discharges from the middle ear almost invariably contained these organisms. Holt,[7] in seven cases of noma of the ear, which term he applies to all forms of "spontaneous" gangrene involving the mucous membranes and mucocutaneous orifices in children, found that the condition was preceded by an otitis media, with the gangrenous process beginning in the deep parts of the ear.

With respect to other cutaneous surfaces, exclusive of the glans penis, lesions due to these symbiotic organisms appear to be extremely rare in temperate climates.

The first case on record was reported by Hultgen[8] in 1910, and consisted in partial gangrene of the left index finger of a 7 year old

5. Bacon, G.: Manual of Otology, Philadelphia, Lea and Febiger.

6. Pilot and Pearlman: J. Infect. Dis. **33**:139 (Aug.) 1923.

7. Holt, L. E.: Diseases of Infancy and Childhood, New York, D. Appleton & Co., 1906, p. 290.

8. Hultgen, J. F.: Partial Gangrene of the Left Index Finger, J. A. M. A. **55**:857 (Sept. 3) 1910.

girl. There was an offensive odor from the necrotic area, and the discharge contained both fusiform bacilli and spirochetes. In 1911, Peters [9] reported two more cases; both consisted of infections of the hand. It is curious to note that all three patients were infected through oral contact; one, from a habit of biting the fingers, and the others, by striking teeth in a fight. A fourth case of gangrenous lesions of the fingers, which also developed after a bite, was reported recently by Pilot and Meyer.[10]

These cases appear to justify the contention that distant infections with the symbiotic organisms is the result of their transplantation from their normal habitats. There is little doubt that the infection in the hand in the second patient occurred in this manner, since an eczematoid eruption existed before the stomatitis developed, and marked inflammatory disturbances developed only after her admission to the hospital.

COMMENT

The first case undoubtedly represents a type of fusospirillary dermatitis, as shown by the characteristic fetid odor, the dark-field studies and the enormous number of fusiform bacilli and spirochetes present in the discharge.

The diagnosis in the second case is, however, complicated by the extremely close resemblance of both the local and the general disturbances to the acute pellagra of some observers. This diagnosis was originally made by Dr. Carrol J. Wright and was concurred in by Dr. Albert E. Roussel.

It is difficult to obtain a clear conception of just what acute pellagra is. According to Marie,[11] the symptoms of this type of pellagra resemble the symptoms of tetanus with hyperreflexia and convulsions, and it is in reality only an acute exacerbation of the spinal lesions of chronic pellagra. Severe delirium may be a prominent feature. Castellani [12] states that acute pellagra is merely chronic pellagra complicated by enteric fever. Manson,[13] on the other hand, says that the acute or fulminating form of pellagra is characterized by intense prostration, high temperature, muttering delirium, pronounced nervous tremor, generalized rigidity and convulsions. The Italian observers

9. Peters, W. H.: J. Infect. Dis. **8**:455 (June) 1911.

10. Pilot, I., and Meyer, Karl: Fusiform Bacilli and Spirochetes; Occurrence in Gangrenous Lesions of Fingers, Arch. Dermat. & Syph. **12**:837 (Dec.) 1925.

11. Marie, A.: Pellagra—A Precis, Public Health and Marine Hosp. Service, Washington, D. C., 1908.

12. Castellani, A.: Manual of Tropical Medicine, ed. 3, New York, William Wood & Co.

13. Manson-Bahr, P., in Manson: Tropical Diseases, ed. 8, New York, William Wood & Co., p. 1335.

agree with Marie that acute pellagra is never primary but represents more marked exacerbation of the chronic form. The only description of acute pellagra which fits the clinical appearance of this case is that of Searcy:[14]

> The onset is usually in the summer months with weakness, gastro-intestinal disturbances and a progressive toxemia associated with salivation and more or less marked diarrhea. Vesicles and bullae develop in a few days in the cutaneous lesions, which appear coincidentally with the general disturbances, and beneath these the surface is raw, weeping, not infrequently fissured. Fatal cases may prove rapidly so in one to several weeks.

If it is admitted, therefore, that this second case is one of acute pellagra, then only one case of pellagra in which spirochetes were found in the blebs could be found in the literature. Sambon[15] found spirochetes in the fluid from a bleb on the hand of a patient in Roumania who had acute pellagrous dermatitis. In this connection, it should be recalled that Corpus,[16] in speaking of ulcers tropicum, maintains that in their mild types true fusospirillary symbiosis of primary origin begins in the form of a bleb with serosanguineous contents. Furthermore, the fetid odor from the hands, mouth and vulval regions was extremely suggestive of Vincent's disease.

SUMMARY

Two cases of fusospirillary dermatitis are reported, one of the external auditory canal and the other of the hands and vulva. That a definite dermatitis, in temperate climates, occurs elsewhere than on the penis (erosive and gangrenous balanoposthitis) and is due to the symbiotic organisms of Vincent is not generally known. Fusospirillary disease is a preferable term for all infections caused by the fusiform bacilli and spirochetes, as it includes the idea that the spirillary organisms vary in types, number, size and other factors. It is probable that the second case is one of acute pellagra with fusiform bacilli and spirochetes complicating the oral, vulval and cutaneous picture. The moist or bullous types of acute pellagra are worth further investigation from the standpoint of this symbiosis, although there is little doubt concerning the secondary nature of the fusospirillary invasion in this particular instance.

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14. Searcy, G. H.: An Epidemic of Acute Pellagra, J. A. M. A. **49**:37 (July 6) 1907.

15. Sambon, quoted by Castellani: Manual of Tropical Medicine, ed. 36, p. 1715.

16. Corpus, T.: A Survey of Ulcus Tropicum, J. A. M. A. **82**:1192 (April 12) 1924.

PITYRIASIS VERSICOLOR AND ULTRAVIOLET RAYS

ACHROMA CUTIS POSTPARASITARIA

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The changing conditions of life bring about corresponding changes in the development of pathologic and physiologic processes.

The period of starvation in the United States of Soviet Russia from 1918 to 1920 is a typical instance. There was a complete disappearance of disturbances of metabolism, gout and excessive obesity, and an increase in scurvy and tuberculosis. The menses of a great many normal women ceased (Chalatov [1]). The cases which I discuss in this article are similar.

Since the people of U. S. S. R. have taken an interest in physical culture, sun baths, which were seldom indulged in before, have become popular. They have great influence on the development of pityriasis versicolor, a rather common disease among the inhabitants of cities.

From the beginning of 1923, I observed in Tashkent (40° 19′ north longitude and 71° 16′ east latitude) and Kiev (50° 27′ north longitude, 30° 30′ east latitude) twenty-one patients suffering from pityriasis versicolor, who were in the habit of taking sunbaths regularly, and thus exposing themselves to insolation (figs. 1 and 2).

Under the influence of ultraviolet rays, the healthy skin first turns red, then becomes pigmented. Parts of the skin, covered by patches of pityriasis versicolor, neither become red nor change their yellowish-brownish tint. A slight desquamation is usually observed in the beginning; in a few days it increases, and the spot loses its brownish color and becomes lighter. In two or three weeks, there has been desquamation over almost the entire patch, and the scales remain only on the edge, forming a corolla of scales. Later, even these scales disappear; the area becomes smooth and resembles healthy, normal skin, which has not been exposed to sunburn.

The skin now has a negative coloration. Sharply defined white spots appear on a more or less dark background and in their form and distribution (on the neck, back, chest and shoulders) correspond exactly to the preceding spots of pityriasis versicolor.

When a patient is exposed to insolation, half dressed, the covered parts of the skin present the usual pigmentation and appearance of pityriasis versicolor.

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1. Chalatov: Pathologic Physiology, Leningrad, 1926.

I made a microscopic study of some of the scales scraped off the spot of pityriasis versicolar, and at first found the spores and mycelium of *Microsporon furfur,* but every day their quantity diminished, until only mycelium, without spores, remained. In a month neither spores nor mycelium could be found.

Scrapings from white, nonscaly spots, cultivated on Sabouraud's medium, gave a growth of purely saprophytic fungi *Penicillium glaucum* and *Cladosporium* species.

Fig. 1.—Achroma postparasitaria on the breast of a man.

The sharp contrast in the pigmentation of the skin after insolation in the summer gradually diminishes in the autumn and fades away during the winter, because then the sunburn has disappeared, and the skin has the normal white color which corresponds to that of the spots and scales of epidermis.

Microsporon furfur spores contain a yellowish pigment and strongly refract light. These spores, and possibly mycelium, act

as a filter, absorbing ultraviolet rays. Because of this capacity for filtering rays, the parts of skin which are covered by fungoid growth do not become red.

In absorbing ultraviolet rays, the spores themselves perish under their influence; therefore insolation cures pityriasis versicolor.

This capacity of the ultraviolet rays explains why in temperate regions pityriasis versicolor is seldom seen on the face.

White spots are caused by the defensive action of the fungoid filter, and are not formed because of the depigmentation of the skin by a certain kind of *Microsporon furfur*, as was supposed by Stein,[2] who called this condition of the skin, pityriasis alba. Evidently, he observed

Fig. 2.—Achroma postparasitaria on the back of a woman.

his two cases when the desquamation had not ended, and he could find spores and mycelium in the scales.

Stein's explanation of the occurrence of achroma and its name is incorrect.

Gager [3] has the same views; he even says that the occurrence of pityriasis alba is due to frequent sunbaths.

Ehrmann, quoted by Wertheim [4] in 1908, was the first to describe achroma of the skin, caused by insolation, in a patient suffering from

2. Stein, quoted by Wertheim (footnote 4).

3. Gager, in discussion on Michelson: Leukoderma Following Pityriasis Rosea, abstr. Arch. Dermat. & Syph. **13**:286 (Feb.) 1926.

pityriasis versicolor. His pupil, Wertheim,[4] exposed his patients to the rays of the quartz lamp, and noted the time when the changes of the skin took place and the fungus disappeared. After this exposure to the rays, the white spots of achroma turn red and become pigmented; their color is then the same as that of the rest of the skin.

Lack of knowledge concerning achroma leads to therapeutic and diagnostic error. Antiseptics are used to treat the patient for a condition already cured, which is incorrectly diagnosed as syphilitic leukoderma and vitiligo. The same mistake was made in the treatment of my two patients; one of them came to me with the diagnosis of syphilitic leukoderma, the other with a diagnosis of vitiligo.

Evidently, the same procedure is followed in the recovery of patients with other mycoses found in tropical countries.

Jeanselme[5] observed pityriasis versicolor in Indo-China, and described it under the name of "achromie parasitaire de la face et du cou, à recrudescence estivale." This mycosis is characterized by the appearance of spots of achroma during the hot seasons. At first these spots are scaly, then smooth; they almost disappear during the cold seasons of the year.

Jeanselme does not note the sequel of smoothness and desquamation or the connection with the disappearance of the fungus, and he gives an incomplete account of the formation of these achromic spots.

Pardo-Castello[6] described achroma parasitaria, which he observed in Cuba. This dermatosis appears in the form of dirty white spots; these spots are slightly inflammatory in the beginning, soon become slightly scaly, and later are completely devoid of scales. These lesions are somewhat itchy, and in the chronic or last stage of their development, appear as whitish spots covered by apparently normal epidermis; the corneous layer appears to be intact. The condition resembles leukoderma syphiliticum.

Scrapings from the spots, cultivated on Sabouraud's medium, gave an abundant growth of a fungus which might be classified among *Aspergillaceae;* it has many of the characteristics of *Aspergillus flavus.*

Pardo-Castello observed that only fresh, scaly spots gave a growth of fungus; old, smooth, nonscaly spots gave none. He did not, however, observe any connection between the course of the disease and the season of the year.

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4. Wertheim: Ueber Lichtwirkung and Leucoderma bei Pityriasis Versiculor, Dermat. Ztschr., pt. 6, June, 1923.

5. Jeanselme: Cours de dermatologie exotique, Achromie parasitaire de la face et du cou, à recrudescence estivale, Paris, 1904, p. 239.

6. Pardo-Castello and Dominguez: Achromia parasitaria, Arch. Dermat. & Syph. **9**:82 (Jan.) 1924.

Photographs of patients with achroma on the back, which illustrate Pardo-Castello's article, resemble those of my patients.

Nearly all of Jeanselme's and Pardo-Castello's patients had mycotic spots on the face and neck, that is, on the parts of the body most exposed to insolation.

After a careful study of the works by Jeanselme and Pardo-Castello, I believe that in these cases also, achroma is caused, not by the biologic influence of the fungus, but by its presence and physical qualities.

On considering the condition of the disease after it is cured, and not the symptoms of the disease in its active state, I would suggest that the most fitting name would be neither pityriasis alba nor achroma parasitaria, but achroma cutis postparasitaria, that is, a seemingly contrasting discoloration of the skin caused by fungi and sharply visible after their death and disappearance.

Jeanselme and Pardo-Castello, basing their conclusions on short articles by Besnier and Doyon,[7] incorrectly refer to achroma parasitaria, the endemic vitiligo, as "Pies" of Turkestan, which is described by G. N. Minch.[8]

Pardo-Castello says that the vitiligo of Minch is analogous to that in his case.

The text and photographs of Minch's work, and also my own observations of patients suffering from "Pies" in Turkestan, enables me to correct the inexactitude of this literary reference. There is no doubt that "Pies" of Turkestan is the common vitiligo of endocrine nervous origin.

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7. Kaposi: Pathologie et Traitement des Maladies de la Peau, Traduction par Besnier et Doynon, Paris **2**:158, 1891.

8. Minch, G. N.: Lepra in the South of Russia and Endemic Vitiligo of Turkestan, Ann. Kiev University, Kiev, 1885-1891.

AN UNUSUAL MANIFESTATION OF SYPHILIS FOLLOWING TRAUMA

REPORT OF A CASE *

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It has long been recognized that trauma may determine focal manifestations both in active and in latent syphilis. Stokes in his recent book mentions this, quotes numerous authorities and cites several cases of his own.[1] If syphilis may be likened to a fire-brand, lighting up latent disease in any part of the body, then trauma may be compared to a percussion cap that can set off without warning in a syphilitic patient an explosion of the disease which may be local or systemic in its manifestations. Just what happens at the site of the trauma is an interesting question which will not be discussed here.

Does the *Spirochaeta pallida* take active control? Are the tissues, weakened by the syphilitic toxins, made more vulnerable? Are these factors combined in a varying degree in each case, according to the resistance of the patient? Whatever the answers may be, the fact remains that in such cases as a rule antisyphilitic treatment is beneficial to a marked degree.

If the case reported here illustrated only such facts, it would be of little or no interest; but the unusual causation, location and character of the lesion, the presence of spirochetes in abundance and its dramatic and complete disappearance under treatment give it a character and importance all its own.

That it is unusual, is shown by the fact that no other case remotely resembled it in more than 2,700 syphilitic patients treated at the U. S. Marine Hospital no. 70 during the last five years, or in almost as many more who were hospitalized at once or did not return for treatment. One patient with a negative Wassermann reaction but without a report of a dark-field examination had a similar but drier lesion on the heel which was diagnosed as a plantar wart. Moreover, not one of the

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* From the Department of Skin and Syphilis, U. S. Marine Hospital no. 70.

* Published with the permission of the Surgeon General of the United States Public Health Service.

1. Stokes: Modern Clinical Syphilology, Philadelphia, W. B. Saunders Company, 1926, p. 24.

several competent observers who saw the case felt justified, from its appearance alone, in making a diagnosis of syphilis. Finally, nothing similar is mentioned in any textbook with which I am familiar, and a search of the literature on the subject does not reveal anything exactly like it. Hazen [2] illustrates a somewhat similar case with the caption "Palmar lesions may be more or less verrucous" but does not give a description in the text.

Oppenheim [3] of Vienna, under the designation of psoriasis plantaris syphilitica verrucosa, describes multiple lesions on the sole which have some characteristics in common with the one I am about to report. He thinks that his case was one of arsenical intoxication.

Fig. 1.—Lesion of the left palm at time of admission.

REPORT OF CASE

The patient presented himself at U. S. Marine Hospital no. 70 on Sept. 16, with a lesion of the left palm, as shown in figure 1.

It would be hard to say why a dark-field examination was ordered, except for the fact that such examinations are made as a routine in all genital sores, and of any eruption or sore the character or appearance of which is doubtful or suspicious. The character of the lesion undoubtedly suggested caution in making a diagnosis, but there was nothing about it that would have justified one in seriously suspecting syphilis. The laboratory reported promptly that the lesion presented great numbers of spirochetes. Not until then, did the patient admit that he had had syphilis and give the following history.

History.—B. L., a white man, aged 25, born in Denmark, single, and a steamship fireman by occupation, had had diphtheria at the age of 4, influenza seven years ago and gonorrhea in 1921 and 1923. The family history did

2. Hazen: St. Louis, C. V. Mosby Company, 1919, p. 146, figure 75.
3. Oppenheim: Arch. f. Dermat. u. Syph. **115**:393, 1913.

not present tuberculosis, and was otherwise negative. The history of syphilis began two years before admission, with a sore on the penis which appeared four or five weeks after the last intercourse. Secondary symptoms were not noticed except that he suffered from morning headaches and the Wassermann reaction was said to have been positive. He received six injections of arsphenamine and six of mercury, after which the Wassermann reaction became negative. Since then he had enjoyed good health and had not thought it necessary to have any more Wassermann tests performed.

Present Illness.—About a month before admission he accidentally blistered the left palm and the palmar surface of the corresponding fingers while at his work. These he treated himself by removing the tops of the blisters and painting the underlying surface with iodine. With the exception of the one on the palm, all of the blisters healed, leaving slightly pigmented and scaling patches. The one on the palm, however, refused to heal, increased in size and, according to the patient's statement, became covered with a warty or horny growth. He pared this off with a knife, applied more iodine, and so on, until he came for relief.

Physical Examination.—The patient was well developed and seemed to be in robust health. The pupils were regular and reacted to light and distance. The Romberg sign was negative. The mucous membranes were clear. A roentgenogram of the chest showed a slight increase of density at both apexes but no other evidence of tuberculosis. There was a slight enlargement of the left epitrochlear gland. There was a scar on the penis, but the skin was otherwise free from eruption, except on the left palm and the palmar surfaces of the corresponding fingers. These presented, besides slightly scaling and pigmented patches at the site of the healed blisters, an open vegetating lesion beginning 1½ inches (3.7 cm.) below the fold of the wrist. The lesion was oval in shape, 1¼ by ¾ inch (3.1 by 1.8 cm.), with the long axis from above downward, and in appearance suggested tuberculosis verrucosa cutis. The surface was very little raised above the level of the surrounding skin. The borders were undermined, and could be lifted from their bed for about one sixteenth of an inch (0.16 cm.) throughout the whole circumference. The central portion was warty and vegetating in character, traversed by cracks and crevices. The vegetating area was a light canary yellow and was covered by a moderate amount of serous exudate, more profuse in the crevices. The whole had a soft and velvety appearance. Toward the periphery and in other places where there had been some drying, there were a few exceedingly minute punctate hemorrhages surrounded by small dirty brown areas. The lesion was not particularly sensitive; there was little apparent inflammatory reaction, and induration could not be demonstrated.

On the strength of the positive dark-field examination, the patient was at once put on antisyphilitic treatment. This consisted of weekly intramuscular injections of 1 grain (0.065 Gm.) of salicylate of mercury and 0.7 Gm. of arsphenamine intravenously. The latter was given in divided doses, 0.4 Gm. on Monday and 0.3 Gm. on Friday. The lesion itself was dressed daily with 10 per cent mild mercurous chloride ointment.

On the day following the beginning of treatment the Wassermann reaction was reported as four plus, thus conclusively establishing the diagnosis of syphilis but leaving the question of the syphilitic nature of the lesion to be decided finally by the therapeutic test.

One week after the foregoing treatment was begun, the lesion showed decided signs of beginning involution and had become flat and dry.

By the thirty-fifth day of treatment the lesion had completely healed, presenting the appearance shown in figure 2.

Up to this time the patient had received nine injections of arsphenamine (2.75 Gm.) and six intramuscular injections of mercury salicylate (6 grains [0.4 Gm.]), besides daily dressings with mild mercurous chloride ointment. Three more injections of arsphenamine (1 Gm.) were administered, and the patient was discharged with instructions to return in six weeks for a Wassermann test.

COMMENT

The question naturally arises, was this a primary, secondary or tertiary lesion?

As the history of syphilis was circumstantial, to call the condition a primary lesion would be tantamount to saying that it was a case of

Fig. 2.—Healed lesion after thirty-five days' treatment.

reinfection or superinfection. Such diagnoses should never be made except with reserve, and they should be based on the most conclusive evidence of a complete cure in the case of reinfection, and on indisputable evidence of a reinoculation in the case of reinfection or superinfection. These desiderata for the diagnosis of a primary lesion in a case of cured, weakened or latent syphilis are not fulfilled in this case. Vegetating chancres are not unknown, but with them marked enlargement of the nearest lymphatic glands and some induration and inflammatory reaction of the sore itself are the rule. This was not the case with this patient. The left epitrochlea, while barely palpable, was not more so than might be expected from a slightly infected finger. Induration and marked

inflammatory reaction were not present. The absence of any sign of a secondary eruption, while not conclusive, is additional evidence against a primary lesion.

The question of a tertiary lesion can be dismissed in a few words. The sore was extremely superficial; there was not any evidence of loss of substance; the borders were not festooned but regular in outline; smaller satellite gummatous nodules were not seen, and it did not in the least resemble the somewhat superficial tertiary palmar syphilids. Furthermore, spirochetes are rarely found in tertiary lesions. On the other hand, secondary lesions are common enough even later than the second year, and when not open or too much secondarily infected, the presence of the spirochetes can frequently be demonstrated without much difficulty. Moreover, long before the discovery of the *Spirochaeta pallida* as the infecting organism, open secondary lesions were known to be highly contagious.

That the condition might have been a late manifestation of arsenical intoxication, as in Oppenheim's case, can be dismissed quickly, as the man had not had any arsenic for two years and had had only a moderate amount at that time. Besides, the lesion cleared up under arsenic like snow melts before the sun.

That the lesion closely resembled tuberculosis verrucosa cutis is shown by the fact that it was diagnosed as such by several dermatologists who abandoned this opinion only after they were told of the positive dark-field examination. In the light of the subsequent history, it may be pointed out that the tuberculosis wart is frequently darker, more purplish than yellow, and more luxuriant in growth, but at the time it was not so easy to come to a decision. In fact, but for the dark-field examination and the Wassermann test, the differentiation would have been uncertain.

CONCLUSIONS

First: The importance is apparent of recognizing the possibility of the presence of the spirochetes in any open sore, even in one of traumatic origin, occurring in one who has latent or active syphilis.

How many people were subjected to the danger of infection by the hand of this man, or how many extragenital chancres he may have been responsible for will never be known.

Second: Diagnosed as anything else and subjected to destructive local treatment, the condition would have gone on indefinitely, and serious results might have supervened.

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SYPHILIS TO THE THIRD GENERATION

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REPORT OF CASES

I shall report a case of syphilis reaching the third generation and discuss some of the problems of congenital syphilis.

FAMILY 1.—A boy, aged 7, was referred to the New York Skin and Cancer Hospital following a diagnosis of interstitial keratitis. The boy presented other unmistakable evidence of congenital syphilis. The Wassermann (blood) reaction was positive. He was treated in the service of Dr. Dudley D. Stetson. The family history revealed that there were three other children with positive blood Wassermann reactions and other signs of congenital syphilis. The mother presented signs of congenital syphilis with a positive Wassermann reaction. The father was clinically free from any manifestations of the disease and had had repeated negative blood Wassermann reactions.

The maternal grandmother gave a history of having been infected by her husband after the birth of her first child. Following this she had eleven pregnancies resulting in five miscarriages, three still births, two babies who died before the age of 1 year and one surviving daughter, the mother of these children. This daughter (fig. 1) had a saddle nose and slightly malformed teeth. The teeth were thin, sharp and partly separated. It has been observed that the teeth of patients with congenital syphilis tend to correct themselves after the age of 20. The teeth of the eldest girl (fig. 2), now 14, were short and thin but fairly regular. Her blood Wassermann reaction was two plus. The boy, aged 9 (fig. 3), presented typical Hutchinson teeth, as did the boy, aged 7 (fig. 4). The youngest child, aged 4 (fig. 5) did not yet have the permanent teeth. A roentgenogram could not be obtained. All these children had positive blood Wassermann reactions and were all below normal both mentally and physically. They have been placed on a course of antisyphilic treatment.

FAMILY 2.—On May 13, 1921, M. M., a boy, born Jan. 25, 1911, made application at the Wilhelminen Hospital of Vienna, Austria, for treatment for an eye condition, and was referred to Prof. Morris Oppenheim, in whose clinic I saw him. A diagnosis of hereditary syphilis was made, the conditions being manifest by interstitial keratitis in both eyes, and by other well marked signs of congenital syphilis. The blood Wassermann reaction was positive and the spinal fluid reaction negative. The boy was treated with neoarsphenamine and mercury and showed marked improvement. Because of the disturbed condition of the country at that time the family history could not be worked out. The patient left the hospital on June 19, 1921.

On Feb. 10, 1926, M. M., a woman (fig. 6), born May 31, 1891, entered the eye clinic of the same hospital with an eye condition which had lasted for three weeks. She was referred to the service of Professor Oppenheim with a diagnosis of interstitial keratitis of syphilitic origin. The condition was unilateral. The patient also showed other signs of hereditary syphilis, such as stunted growth, the loss of all the upper front teeth, a questionable saddle nose and a dull mentality. History of infection or of a body rash was not obtained.

She was married at the age of 19 and her first baby was born one year later. This was the patient referred to before. The only other pregnancy resulted in an abortion during the fourth month. Beside giving the typical history of congenital syphilis, there was an additional history of multiple lesions of the bone which appeared at the age of 15. These lesions were in the shaft of the left humerus, and on the anterior surface of the right fourth rib. The roentgenogram at this time showed only a thickening of the bones at these sites. The blood Wassermann reaction was positive and the spinal fluid reaction

Fig. 1.—Mother of family showing congenital syphilis in the third generation.

negative. In the husband, the father of the boy, the blood Wassermann reaction was negative repeatedly and there was no history of infection. The woman's father, the grandfather of the child, died of general paralysis. Her mother, the grandmother of the child, is being treated for a recurring gumma of the leg. Her blood Wassermann reaction was positive and the spinal fluid negative.

One outstanding factor in this case was the late appearance of the interstitial keratitis in the mother (second generation) at the age of 35. The fact that this condition is unilateral differentiates it from a progressive optic atrophy associated with central nervous syphilis which sometimes appears at this age. Another factor was that the disease was manifest in both the second and the

third generation by interstitial keratitis combined with other signs of congenital syphilis. Syphilitic interstitial keratitis is diagnostic of congenital syphilis.

Barthelemy, in a wide practice, saw syphilis manifest itself in the third generation by many varied dystrophies. These were always similar to those seen in the second generation. He observed nearly all the mal-

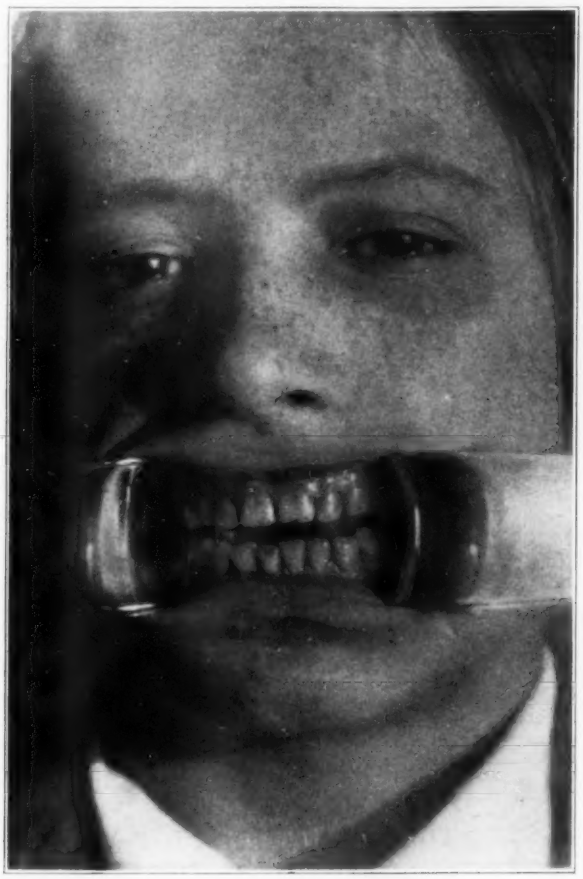

Fig. 2.—Eldest living child in family with congenital syphilis in the third generation.

formations in the third that were common in the second generation. Records of the same nature were produced by other observers, especially by Tarnowsky, Etienne, Jacquet, Jullian and Gibert. Gibert reported before the time of the Wassermann reaction that four children were born of a healthy father and a congenitally syphilitic mother, "all infected with a high degree of rickets and one an idiot." Gaubet, of the same period, records a case of a woman whose husband was

healthy, and whose four pregnancies resulted in one miscarriage, two stillbirths and a monster. Bruusgaard [1] reports the case of a boy with rhagades about the mouth, serpiginous scars on the abdomen and other characteristic signs of congenital syphilis, with the history of a rash at the age of 1 month. The blood Wassermann reaction was strongly positive. The mother gave signs of congenital syphilis and the history

Fig. 3.—Child, aged 9, in family with congenital syphilis of the third generation.

of a rash on the body at the age of 6 months. The blood Wassermann reaction was positive. Possibilities of reinfection were ruled out. The maternal grandmother gave a history of nine pregnancies resulting in three miscarriages, two children who died in infancy, another child who died at the age of 8, and three surviving children: two healthy and the other the mother of the patient. Paterson [2] reports a case of

1. Bruusgaard: Acta derm-venereol. **1**:1, 1920.
2. Paterson: Brit. J. Child. Dis. **197**:202-204 (Oct.) 1920.

the disease transmitted from the maternal grandmother to her daughter, who gave birth to a syphilitic child. The patient, a boy, aged 2½ years, presented the characteristic facies of congenital syphilis. The blood Wassermann reaction in the boy was four plus and in the father, negative. Milian and Valle [3] report a case of a boy, aged 7, with unmistakable signs of congenital syphilis and a positive blood Wassermann reaction. The father had been killed at war but had shown no

Fig. 4.—Child, aged 7, original patient from family with congenital syphilis in the third generation.

signs of the disease. The mother presented typical manifestations of congenital syphilis. The maternal grandmother had long been tabetic. Jeanselme and Simon, in discussing the case, both mentioned a case of this transmission. Pinard recalled such a case reported by Queyrat in 1906. Audrain [4] related his experience with such cases, supporting and emphasizing the importance of syphilis in the third generation.

3. Milian and Valle: Bull. Soc. franç. de dermat. et syph. **4**:114, 1921.
4. Audrain: Bull. Soc. franç. de dermat. et syph. **28**:315, 1921.

Higoumenakis [5] gives the details of nine cases reported since 1908 and thirteen from his own observation in which congenital syphilis had flared up in the second generation even when it had been latent in the first.

The manner of the transmission of syphilis to the offspring is still an unsettled question. It has reached a partial solution since the discovery of the Wassermann reaction and *Spirochaeta pallida*. The laws of Profeta and Colles have passed with the accumulation of clinical

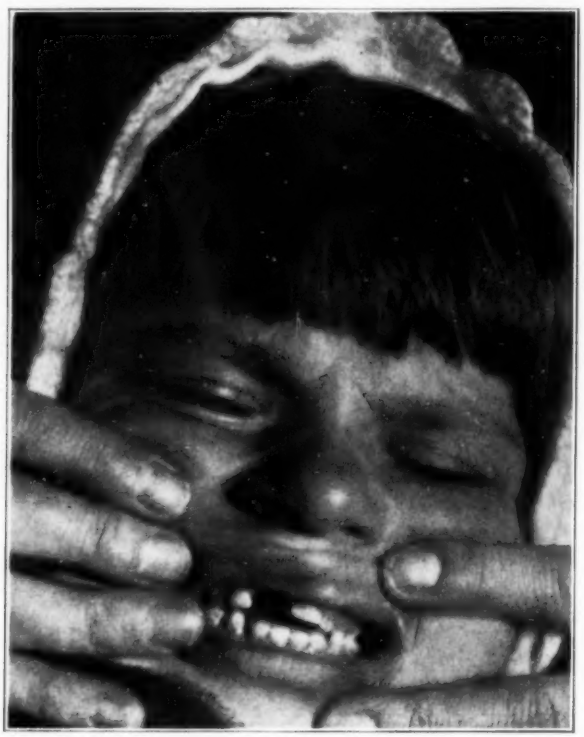

Fig. 5.—Youngest living child in family with congenital syphilis of the third generation.

and serologic evidence made available through the more recent work of Neisser, Levaditi, Mulzer and others. The concept of immunity in syphilis has been subject to wide modification. Abundant evidence is now available that the apparent immunity of the mother without clinical syphilis to her syphilitic child is not a form of immunity but is latent syphilis. The same reason accounts for the apparent immunity of the child clinically free from syphilis to its syphilitic mother. The

5. Higoumenakis, G.: Ann. d. mal. vén. **19**:324 and 401 (June) 1924.

Wassermann reactions of the mother and child with latent syphilis are positive in as high a percentage as in any other form of the disease. The opinion is widely accepted that the germinal infection from the father does not take place. It was originally assumed that the spirochete was carried in the head of the spermatozoon and in this way made its entrance into the ovum. Since *Spirochaeta pallida* is three times the length of the head of the spermatozoon, it is not plausible that the invasion could take place in this manner. Weber has shown that the

Fig. 6.—Interstitial keratitis appearing at the age of 35.

disturbance of a single blastomere in the lower vertebrates is sufficient to cause malformation and stop development. It is also known that the regenerative power is greater in the lower animals than in the higher; so the possibility of the spirochete being free in the semen and entering the egg cell in this manner can be dismissed with fair certainty. The transmission of syphilis to the offspring may then be considered entirely of maternal origin. The only part the father can have is to infect the mother. The mother transmits the disease to the fetus through the placenta. In such a case the placenta might be considered the initial lesion, the spirochetes being carried direct into the blood stream, and

rapidly and effectively disseminated through the body of the fetus, reaching all tissues and organs. This can easily account for the early death of the fetus and the high mortality of congenitally syphilitic infants in the first month of life.

The question of transmission of syphilis to the third generation has been of great interest since the earliest days of syphilis. Theoretically, transmission to the third and even to the fourth generation and so on is possible, but no case has been reported in which syphilis has been transmitted further than the third generation. Authorities disagree as to whether or not congenital syphilis can be transmitted. Fournier produced a number of cases in which he thought such transmission was certain, while Hutchinson, from his wide experience, did not think it occurred. Discussion of the question by more recent writers is infrequent. The available literature shows that this congenital influence in the third generation is mild, which can be explained from the knowledge of modern immunology. This influence may be equal, however, in intensity to that of the second generation, and the whole progeny may be affected, as in the cases reported here and in the case of Gibert, Gaubet and Etienne. Since these cases resemble in almost every way, both clinically and serologically, the manifestations of the disease in the second generation, it is taken that the similarity of the accidents is evidence of a common origin. It can, therefore, be accepted that congenital syphilis may have the same detrimental effect on the fetus as acquired syphilis, and that it may in the same manner as the latter furnish a predisposing cause for abortions, still-births and infants consigned to early death.

413 Medical Arts Building.

GRANULOMA INGUINALE OF THE FACE AND MOUTH *

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PHILADELPHIA

The report of an additional case of granuloma inguinale would mean little were it not for two facts. First, granuloma inguinale, though the eponym seems to imply that the disease is confined to the inguinal region, may, as a matter of fact, affect any part of the general cutaneous surface and the mucous membranes. Second, the cutaneous manifestations of granuloma inguinale, when the seat of the disease is on a part of the body other than the genitocrural or the perineal region, may at first sight suggest syphilis, tuberculosis, blastomycosis or a new growth.

The case reported here is an excellent example of the few instances in which granuloma inguinale has attacked the cutis and mucous membranes of the exposed parts of the body.

REPORT OF CASE

History.—R. J., an unmarried colored man, a native of South Carolina, was admitted to the venereal ward of the Philadelphia General Hospital on Sept. 19, 1924, complaining of "sores on the penis, ulcerations in the groins and of a urinary fistula." In childhood the patient had the diseases common to that age, and in 1918, while in the army service, he had gonorrhea. In 1921 he had had a "hair cut" which was cured after three months with topical applications.

Present Illness.—The present illness began in 1923. The first symptom of the disease was a urethral discharge which was soon followed by the development of a papule on the glans penis. This papule subsequently ulcerated and in turn was followed by the development of a paraphymosis. The patient consulted a physician who treated him with arsenicals intravenously. These treatments having failed to relieve the patient of the complaint, he saw a second physician who circumcised him. Subsequent to the circumcision an abscess appeared on the perineum just posterior to the scrotum. The abscess ruptured, giving rise to a fistula through which urine had been escaping. About four months after the patient first saw the papular lesion on the glans penis he noticed that a similar papule made its appearance, first in the right and later in the left groin. These papules gradually increased in size to that of a nodule, broke down and gave rise to progressive granulomatous ulcerations in the groins. The patient also had a lesion on the right cheek, the history and course of which were repetitions of the lesions of the penis and groins. It differed in one respect—the progress of the lesion on the face was comparatively slow.

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* From the Philadelphia General Hospital and the Department of Dermatology, Jefferson Medical College.

* The patient was presented before the Philadelphia Dermatological Society and the American Dermatological Society.

Except for the lesions that involved the right cheek, the groins, the penis and the perineum, the physical examination of the patient was negative. The right cheek presented a lesion which was about the size of a dime and at first sight resembled an epithelioma, in respect that the border of the lesion was rolled out, elevated and hard. The color was purplish. The base of the ulceration was made up of large granulations and cicatricial tissue, and there was a thin milky exudate which had a fetid odor. The groins presented linear granulomatous ulcerative lesions which extended from the anterior superior spines of the ilia, along Poupart's ligaments, to about halfway between the scrotum and the anus. The ulcerations terminated in an exuberant granulomatous fungoid mass with an opening in the center from which urine escaped. The glans penis also presented ulcerations and exuberant granulations so great in extent as to give the examiner the impression that the glans penis and foreskin were destroyed.

Laboratory Observations.—The urinalysis, blood counts and Wassermann reaction were all negative. Donovan bodies were reported present in the scrapings from the lesions of the face, groins and penis.

Fig. 1.—Granuloma inguinale lesion on the right cheek.

Treatment and Course.—The patient was first treated with an autogenous vaccine from Sept. 7 to Oct. 1, 1924. He did not show improvement, and the vaccine therapy was discontinued. Antimony potassium tartrate therapy was then instituted. Ten cubic centimeters of a 1 per cent solution of antimony postassium tartrate was given intravenously every second day. The lesions in the genitocural region healed for the most part, but the progress of the lesion on the face was less favorable. At the time the patient was discharged, on his own request, after six months' treatment, the lesions, with the exception of the one on the face, had completely healed.

The patient was readmitted to the hospital in September, 1925. The lesions on the penis, in the groins and also on the perineum had relapsed to their original state. On the cheek, the lesions assumed the shape and size of a small sickle pear. In addition, the patient for the first time presented evidence of the disease on the mucous membranes of the mouth. Many of the lesions consisted of flat topped papules with abraded surfaces or small ulcerations. In other respects, the large lesions resembled in their conformation and clinical appearance the granuloma inguinale as observed on the skin. Donovan bodies were found in the scrapings of all the lesions; otherwise, the laboratory reports were negative.

The patient was treated again with antimony potassium tartrate, but the medication was ineffective. He was next treated with neoarsphenamine intravenously, and later with bismuth intramuscularly. The antisyphilitic treatment did not affect the outbreak. Improvement was noted only after the lesions were treated with the roentgen ray [1] and this followed by antimony potassium tartrate intravenously. In treating the patient with the roentgen ray the following technic was observed. The palate was treated on fourteen different occasions, the time of exposure being five minutes with 4 milliamperes and a spark gap of 14 cm. The

Fig. 2.—Photomicrograph demonstrating Donovan bodies from the lesions of the mouth.

filtration used was from 0.5 to 1 mm. of aluminum, and the focal distance was 50 cm. The cheek was treated four times with the same technic, except that the time exposure was ten minutes instead of five and the filtration was 5 mm. of aluminum. The penis and groins were treated ten times, the latter technic being used. Antimony potassium tartrate was continued, being administered every second day. The treatment was begun in January and terminated in June, 1926, when all lesions were completely healed. The patient has been under constant observation since treatment was discontinued, and the lesions have not recurred.

1. The roentgen-ray treatment was given by Dr. Bradley, Radiologic Clinic, Philadelphia General Hospital.

It is well known that granuloma inguinale was not recognized as an entity until 1896 when Conyers and Daniels [2] described the disease. For a considerable time thereafter, the condition was classed among the tropical diseases of the skin and mucous membranes. The belief had to be modified, however, when cases presenting the clinical picture and having the distinguishing characteristics essential to diagnosis of the condition began to be reported from almost every state in the Union, as well as from tropical countries. Like many other diseases of the skin, granuloma inguinale had been described under different synonyms. The condition was reported under the name of lupoid form of groin ulceration by Conyers and Daniels.[2] Galloway [3] described the disease as ulcerating granuloma of the pudendum. Maitland [4] applied the name of chronic venereal sores, and Aragao and Vianna [5] reported it as venereal granuloma.

The disease is commonly acquired through sexual intercourse. The onset is insidious, and the course is essentially chronic. The initial lesion is a papule, a vesicle or a nodule, and in males it most frequently attacks the groins, pubes and penis. In females, the labia and vulva are most frequently the seat of the disease. The lesions are autoinoculable and ulcerate. Once started, the disease progresses slowly and new areas are affected. The ulcerations spread concentrically, with a tendency to heal in the center, and they are accompanied by scarring. Eventually, the entire perineal region may become involved, unless the progress of the disease is terminated by successful treatment. The lymph nodes of the affected area are not involved. Secondary infection may give rise in some cases to lymphangitis and elephantiasis, and in others to deep excoriations of the tissues and the formation of rectal, vesical or urethral fistulas. The general health of the patient, as a rule, is not impaired.

A diversity of opinion exists relative to the etiology of this disease, the most probable cause being, as pointed out by Gage,[6] the pleomorphic organism first described by Donovan,[7] which has been demonstrated in lesions of granuloma inguinale and reported by writers throughout the world, and which presents a definite uniform morphology in all cases, having the same relationship to the endothelial leukocytes and their distribution in tissues.

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2. Conyers, J. H., and Daniels, C. W.: Brit. Guiana M. Ann. **8**:13, 1896.
3. Galloway, J.: Brit. J. Dermat. **9**:133, 1897.
4. Maitland, J.: Lancet **1**:1625, 1899.
5. Aragao and Vianna, J., quoted by Law and Newham: Brit. M. J. **2**:387, 1916.
6. Gage, I. M.: Granuloma Inguinale, Arch. Dermat. & Syph. **7**:303 (March) 1923.
7. Donovan: Indian M. Gaz. **40**:414, 1905.

It is obvious, in view of the comprehensive studies and case reports of granuloma inguinale, that the disease does not often attack exposed parts. However, the fact remains that the disease may appear on any part of the body and mucous membranes, and consequently the clinical aspect of the disease assumes importance from the standpoint of differential diagnosis. In addition to the present case, and apart from the lesions in the genitocrural region, cases are on record in which the lips were the seat of the condition in five cases,[8] the side of the neck in three cases,[9] the cheek in two,[10] the hand in one [11] and the mouth in two cases.[12] In Hunter's [8] case, in addition to the lesions of the mouth, the lower lip, the pharynx and the larynx were affected. In the case reported by Ross,[9] besides the lesions of the mouth, the nose and larynx were involved.

In connection with the treatment of granuloma inguinale with antimony potassium tartrate, it seems fair to accept the specificity of the drug as proved. At the same time, clinically, cases are encountered in which the lesions fail to yield to the action of the drug. Therefore, the question of comparative failure of antimony potassium tartrate is pertinent. The use of antimony potassium tartrate solution intravenously has been adopted as the method of choice since 1913, when Arogao and Vianna reported their conclusions on the subject. One method of preparing the solution is to dissolve the antimony potassium tartrate in distilled water and then to boil the solution thoroughly. Stokes [13] and many others are inclined to ascribe the comparative failure of the therapy to the boiling of the solution. The untoward effects such as headache, nausea, vomiting and bone pains are attributed to the same factor. Although the patient under observation was treated with solutions of antimony potassium tartrate which were not boiled, I believe that boiling mitigates against the potency of the drug and is responsible for the reactions frequently noted following its use.[14]

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8. Sequeira: Brit. J. Dermat. **20**:91, 1908. John, F. M., and Gage, I. M.: Internat. Clin. **4**:15, 1924. Parounagian, M. B., and Goodman, H.: Ulcerating Granuloma Granuloma Inguinale), Arch. Dermat. & Syph. **5**:597 (May) 1922. Taussig, F. J.: Am. J. Obst. & Gynec. **6**:411, 1923. Hunter: Tr. Coll. Phys. Philadelphia **45**:455, 1923.

9. Ross, C. J.: Virginia M. Monthly **1**:401, 192. Parounagian and Goodman (footnote 8, third reference). Winfield: Discussion, Arch. Dermat. & Syph. **5**:832 (June) 1922.

10. Lynch, K. M.: Granuloma Inguinale, J. A. M. A **77**:925 (Sept. 17) 1921. John and Gage (footnote 8, second reference).

11. Claassen: Ohio State M. J. **18**:685, 1922.

12. Ross (footnote 9, first reference). Hunter (footnote 8, fifth reference). John and Gage (footnote 8, second reference).

13. Stokes, J. F.: Discussion, Arch. Dermat. & Syph. **14**:92 (July) 1926.

14. In contradistinction to the comparative freedom from reactions, the experience, when boiled antimony potassium tartrate solutions were used, was that the patients rebelled against the treatments on account of the untoward effects.

The roentgen ray was extensively employed in the treatment of granuloma inguinale before the diagnosis was definitely established. The disease was classed under the tuberculous conditions of the skin and was treated by curettement, followed by the roentgen ray, or the roentgen ray was employed alone. The assumption that the cure of the disease achieved in the patient under discussion was the sequence to the use of the roentgen ray and antimony potassium tartrate is based on the histopathologic picture of the disease, which is a sclerosing granuloma. The supposition is that the sclerosing membrane and connective tissue, with which the lesions abound, act as a barrier to the action of the antimony potassium tartrate. Only after the sclerosing membranes and the connective tissue are broken down by means of the roentgen ray is it possible for the antimony potassium tartrate to act on the causative organisms, especially in a case which is refractory to antimony potassium tartrate medication.

A natural deduction from the foregoing facts is that the disease is not limited to the genitocrural region. That the name granuloma inguinale is misleading, that it would be more precise to have the disease known as ulcerating granuloma or sclerosing granuloma and that the use of the roentgen ray as an adjunct to antimony potassium tartrate therapy in obdurate cases is indicated.

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Abstracts from Current Literature

Irritation due to Insect Secretion. W. A. Hoffman, J. A. M. A. **88**:145 (Jan. 15) 1927.

Hoffman found that an insect, *Loxa flavicollis*, produced cutaneous irritation by the secretion of a ventral gland. Surface contact alone is necessary. Apparently, this demonstrates a means of irritation by insects hitherto unrecognized.

Erysipelas: VI. Immunization with Soluble Toxin from Streptococcus Erysipelatis against Recurrent Attacks of Erysipelas. K. E. Birkhaug, J. A. M. A. **88**:885 (March 19) 1927.

Birkhaug's studies showed that immunity after an attack of erysipelas lasts only about six weeks. About this time skin reactions to the toxin of *Streptococcus erysipelatis* becomes positive. The short period of immunity accounts for the number of cases of recurrent erysipelas. In the recurrent cases Birkhaug actively immunized (by three doses biweekly of an increasing strength of toxin) twenty-four patients, and obtained complete freedom from recurrences. The observation period in these cases extends from six months to two years.

The Curability of Syphilis: An Experimental Contribution. A. M. Chesney and J. E. Kemp, J. A. M. A. **88**:905 (March 19) 1927.

Hitherto the criterion of cure of syphilis has been reinfection, but recently the intratesticular implantation into rabbits of the lymph nodes of presumably cured syphilitic patients has been suggested as a better method for the study of his question.

Chesney and Kemp used this method in three patients. All had early infections when specific treatment was begun. Two of the patients received fairly adequate treatment with the usual remedies; one had only six injections of arsphenamine and six intravenous injections of mercury, with an indeterminate number of rubs.

In the first patient a node transfer before treatment was begun was positive. In this patient, as well as the other two, nodal transfers were negative one year, four years and nearly five years, respectively, after treatment ceased. The authors do not maintain that negative lymph node transfers are proof of the cure of syphilis, but suggest that this method offers a means of studying the curability of the disease, and that valuable information will be derived when a large experience with it has been gathered.

The Use of a Stable Colloidal Lead in the Treatment of Cancer. H. S. Martland, S. A. von Sochocky and H. Hoffman, J. A. M. A. **88**:911 (March 19) 1927.

The authors employed a colloidal lead preparation in the treatment of cancer. Satisfactory results were not obtained. Their preparation was one of uniform particles, and their work led them to believe that in other colloidal lead preparations the particles were of various sizes, causing thrombosis not only in the tumor but also throughout the body. They consider that the thrombosis explains the action of the preparation rather han any chemotherapeutic effect of the lead itself on tumor cells.

Michael, Houston, Texas.

DIABETES INSIPIDUS ASSOCIATED WITH SYPHILIS OF THE HYPOPHYSIS. E. B. FINK, Tr. Chicago Path. Soc. **12**:206 (June 1) 1926.

This is a report of diabetes insipidus in a man, of twenty years' duration, beginning about five years after a primary syphilitic lesion with symptoms of syphilitic meningitis. At first the polydipsia was extreme and the polyuria enormous. Both improved temporarily under antisyphilitic treatment and were partially controlled by hypodermic injections of pituitary extract. Signs of hypophysis dystrophy developed, consisting of loss of body hair, moderate adiposity and atrophy of the genitals. During the few months before death the diabetes insipidis had apparently disappeared.

At necropsy, the changes of interest concerned the hypohysis. It was extremely small, a disk 11 mm. transversely, 7 mm. vertically, and 0.5 mm. thick, including the thickened capsule, which was not to be differentiated from the thickened dura with which it merged. Distinct hypophysis was not present, and its location was determined solely by the entrance of the infundibulum into the thickened fibrous tissue. Microscopically, the infundibulum, posterior lobe and pars intermedia were replaced by dense avascular scar tissue. Remains of the anterior lobe were not found except in the middle of the mass, where there was glandular tissue about 2 mm. in diameter.

The base of the brain was divided into four blocks, embedded in paraffin and cut in series. The ganglion cells scattered through the hyopthalamus and in the tuber cinereum were normal. Nowhere was there round cell infiltration.

In my conception of the pathogenesis of diabetes insipidus, cases in which the lesion is confined to the posterior lobe and infundibulum of the hypophysis cannot be ignored. The hypophysis and midbrain are anatomically united, and in all probability this is true of their function. A lesion in any part of this unit may result in diabetes insipidus, although not invariably. It is just as inconsistent with the facts to state that the hypophysis does not bear any relation to diabetes insipidus as it is to deny that lesions of the tuber cinereum produce it.

CARPENTER, Chicago.

PITYRIASIS LICHENOIDES ET VARIOLIFORMIS ACUTA. A. M. H. GRAY, Proc. Roy. Soc. Med. **20**:343 (Feb.) 1927.

A boy, aged 13, an inmate of an orphan institution, for seven months had developed spots on his body which formed small crusts, and these, on falling off left pitted scars. The condition was thought to be varicella, but as the lesions continued to appear he was referred for diagnosis. The earliest lesions were pale pinkish yellow, slightly elevated papules with smooth nonscaly surfaces varying in size from that of a lentil to that of a pea. On rubbing they became brighter red, but wheals did not develop. They were discrete and did not tend to group. A large number soon developed a central hemorrhage and dryed up, forming a dry scab, which after some days fell off and left a pitted scar. Some, however, did not necrose in the center but gradually faded away leaving a yellowish stain for a time. Occasionally, one found a flat almost colorless lesion, covered with fine branny scales and greatly resembling the lesions seen in pityriasis lichenoides chronica (parapsoriasis en gouttes). Intradermic tuberculin tests were positive and roentgenograms revealed "Suspicious infiltrating shadows upper part of both lungs especially the right. Lower parts of both lungs are quite clear."

GUY, Pittsburgh.

EXAGGERATED PHOTOSENSITIVENESS OF THE SKIN OF ENDOCRINE ORIGIN. G. D'AMATO, Policlinico **33**:1750 (Dec. 13) 1926.

D'Amato describes a case of hypersensitiveness to direct daylight in a married woman, aged 31, with a history of two procured abortions and one healthy child. The hypersensitiveness was most evident during the menstrual periods, tending to disappear in the intervals. It appeared first at the age of 16, coinciding with the first menstruation. The skin of the face, hands and wrists became swollen and red, suggesting erysipelas. Vesicles developed, which broke spontaneously, emitting a serous fluid. Itching was intense. A brief exposure to direct daylight was sufficient to bring on these symptoms, which lasted for about one day. The woman was obliged to wear gloves and veil her face if she went out in the daytime. Hematoporphyrinuria was excluded by spectroscopic and chemical examinations, and roentgen-ray sterilization was determined on. One erythema dose applied to each ovary resulted in marked improvement. The symptoms returned in attenuated form with the next menstruation, but a repetition of the irradiation suppressed both the menses and the phenomena of hypersensitization to daylight for two years, except for slight itching at each return of the menstrual epoch. At the end of this time the menses and the skin phenomena returned. Experiments with various lamps indicated that the rays responsible were the so-called "erythema" rays (of wave length less than 320 millimicrons).

FOX-FORDYCE'S DISEASE IN THE MALE SEX. N. TÜRK, Dermat. Wchnschr. **84**: 326 (March 5) 1927.

In this instance a case of Fox-Fordyce's disease, typical both clinically and histologically, occurred in a man, aged 23, of neurasthenic tendency, and was accompanied by impotence. Schiefferdecker's apocrine sweat glands were found in the skin of the area mammarum. Testicular hormone, given for the impotence, had a beneficial effect on the itching, and its administration was followed by slight flattening of the nodules; the impotence was unaffected. Türk believes that the pathogenesis may be explained on the assumption of altered testicular function, with production of a changed hormone and consequent dysfunction of the apocrine glands, and the excretion of qualitatively altered secretion. The article is illustrated with excellent photomicrographs.

SANOCRYSIN TREATMENT OF LEPROSY. A. PALDROCK and A. RÄNGEL, Dermat. Wchnschr. **84**:372 (March 12) 1927.

Paldrock and Rängel used sodium aurothiosulphate in three cases of tubercular leprosy. A therapeutic action was not observed, although rise in temperature and general and local reactions accompanied the treatment.

PIGMENTED SARCOMATOSIS OF THE SKIN. H. HAMDI and T. HALIL, Virchows Arch. f. path. Anat. **263**:404 (Feb. 3) 1927.

The authors describe three cases of the disease and give the histologic observations in detail. In two cases there was nothing to throw light on the etiology; in the third, the nodules appeared simultaneously on both hands and both feet after trauma to the right foot. It is noted that the longitudinal axis of the oval and elongated nodules lay in the direction taken by the vessels. Three stages of the disease may be distinguished, which are in accordance with the degree of development and with the form of the constituents of the nodules. Pigment containing iron is seen only in the older nodules and is not constant,

as has been stated. The disease is not limited to the corium, but may later involve the fatty tissue. Hemangiomatous formations and dilatation of the lymph capillaries are always present. The authors incline to the infectious theory of origin.

RELATIONS OF ACANTHUS NIGRICANS TO OTHER EPITHELIAL CHANGES AND PARTICIPATION OF THE SKIN GLANDS IN THIS DISEASE. H. HAMDI and H. RESCHAD, Virchows Arch. f. path. Anat. **263**:412 (Feb. 3) 1927.

In a case of acanthus nigricans, Hamdi and Reschad found proliferations in connection with the skin glands and their excretory ducts. In several places, the cells of the excretory ducts of the sweat glands had become cylindric, increased in number and formed a number of berry-like epithelial buds around the ducts. At other sites, the cells of the secretory tubules had augmented in number so that the loops coalesced and formed collections of epithelial cells, surrounded by short curves and buds made up of rows of cylindric cells. Proliferations of this sort were found around one sebaceous gland and one hair root. Descriptions of these formations, which are similar to the changes in the basal layer, have not been found by the authors in the literature on acanthosis nigricans. In another case, a pea-sized dermoid cyst was found in the corium.

SYPHILIS OF THE BLADDER. E. F. CHOCHOLKA, Ztschr. f. urol. Chir. **21**:134 (Dec. 24) 1926.

Chocholka analyzes the statistics of syphilis of the bladder and reviews thirty-nine cases personally examined. He discusses the diagnosis at length. The condition, he asserts, is much more frequent than is generally supposed, being easily overlooked or confused with tuberculosis or tumor. Significance should not be attached to a negative Wassermann reaction. In the cystoscopic picture, the only characteristic sign is papulosis. Hematuria was present in only one-fifth of his cases. The behavior of the vesical changes in response to antisyphilitic treatment is the most illuminative element in the diagnosis. The origin of the trabeculae in the parasyphilitic bladder is discussed briefly. He believes they cannot be explained on a purely mechanical basis, but depend on trophoneurotic factors.

SYPHILIS OF THE BLADDER. A. ROTHSCHILD, Ztschr. f. urol. Chir. **21**:232 (Dec. 24) 1926.

Rothschild reports in detail a case of syphilis of the bladder in a woman, aged 65. She complained of frequent urination and severe pain after urination. The cystoscope revealed numerous pea-sized elevations of the mucous membrane. The Wassermann reaction was doubtful. Irrigations with silver nitrate brought about disappearance of all the papules except two, in about three weeks. These two remained stubborn to the treatment and were removed by thermocoagulation. In a few weeks the subjective symptoms returned, but were relieved by silver nitrate irrigations. Three and one-half months after this the symptoms were again present in a severe form and the cystoscopic picture was the same as on the first examination. Again the condition cleared up under silver nitrate treatment. Seven years later the patient returned with the same symptoms. In the interval she had been well. Cystoscopic examination showed the floor and sides of the bladder to be flecked with red; white deposits with freely floating margins of mucous membrane and loosened layers of epithelium were seen on a number of spots. Antisyphilitic treatment was

started at that time, and one month later the cystoscopic picture was almost normal. Local treatment was not given. At the close of the antisyphilitic treatment urination was normal.

CARPENTER, Chicago.

DERMATOLOGIC ABSTRACTS

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

"ENDOLUMBAR TREATMENT OF SYPHILIS." M. NONNE and H. PETTE, Med. Klin. **22**:1515 (Oct. 1) 1926.

As a result of forty years of experience in the treatment of neurosyphilis, Nonne and Pette declare that the curable patients recover after treatment with mercury and iodine. Arsphenamine may be useful for hastening the resorption of syphilitic products. Endolumbar treatment does not possess greater advantages, is difficult for the physician as well as for the patient, and involves the danger of serious injury. Malaria treatment is good. Restoration of the cerebrospinal fluid to a normal condition does not absolutely preclude neurosyphilis. The patient's general health as well as his constitution are important factors in prognosis.

SYPHILITIC AORTITIS. F. MORITZ, München. med. Wchnschr. **73**:1263 (July 30) 1926.

Moritz finds subjective symptoms comparatively rare in a beginning aortitis. Accentuation of the second aortic sound without corresponding increase in blood pressure — and frequently with a systolic murmur — is an important sign. Differences between the pulse of the two carotids or the two radial arteries, pulsation in the jugular fossa and roentgen-ray examination confirm the diagnosis. The Wassermann reaction was negative in about one eighth of the patients. On the other hand, syphilitic aortitis was found in one half of the men and one third of the women with positive Wassermann reaction. An energetic specific treatment with arsphenamine, bismuth, iodides and mercury continued for years gives good results. He has observed a patient with a beginning aneurysm for fifteen years and the patient feels better than he did at the beginning.

STATISTICS ON ECZEMA: II. TAKAHASHI, Acta Derm. **8**:409 (Sept.) 1926.

The 2,649 cases of eczema in children reported on by Takahashi were about equally divided between the sexes: 805 cases occurred at 1 year of age, 563 at 2 years, 380 at 3 years, 237 at 4 years, 159 at 5 years, seventy-two at 7 years, and so on, with diminishing frequency up to the age of 15, when only thirty-three cases occurred. The fewest cases occurred during June, July and August; the most during December and January.

Society Transactions

MANHATTAN DERMATOLOGICAL SOCIETY

JOSEPH ELLER, M.D., *Chairman*

December, 1926

NEVUS UNIUS LATERALIS. Presented by DR. GILMOUR.

B. A., a boy, aged 7, born in the United States, had a corrugated brown nevus, raised to the extent of one-half inch, which occupied the lower part of the back side of the left ear, and extended slightly down the neck. It had been present as long as could be remembered and had pushed the tip of the ear forward. The case was presented for suggestions as to treatment.

DISCUSSION

DR. WALHAUSER: I suggest complete removal of this nevus under local anesthesia, using a cautery knife to cut away all the elevated parts of the lesion and applying red heat to the base to overcome the bleeding and to develop a firm, dry scab.

DR. MACKEE: I agree with Dr. Walhauser's therapeutic suggestion. The nevus may be destroyed with the actual cautery. Good results may also be obtained with desiccation or with solid carbon dioxide. Results with the roentgen ray and with radium have not been good in such cases.

DR. SATENSTEIN: I treated a patient, who had a nevus not so extensive as this, with the actual cautery, using it at red heat; I did too much at one sitting, and a keloidal scar resulted. On the basis of my experience with that case, I suggest that small areas be treated at a time.

LUPUS ERYTHEMATOSUS (SEQUELAE). Presented by DR. GILMOUR.

F. B., a woman, aged 23, unmarried, a stenographer, born in the United States, said that nine years prior to Jan. 15, 1922, a red spot had appeared on the left cheek and had extended toward the bridge of the nose.

Physical examination showed two small patches, three-quarters inch (1.9 cm.) in diameter on the middle of the right cheek. There were other red, scaly patches on the forehead and on the left cheek. This was a typical active lupus erythematosus.

During the years 1919 and 1921, the patient received numerous treatments with radium. At that time a small scar appeared on the right cheek. The patient was not seen after June 29, 1922, until Nov. 10, 1926.

On Nov. 10, 1926, the lupus appeared to be healed. No reaction from radium was present. Two and one-half years previous to this date the patient had received one endothermic treatment on the right cheek.

When she was presented there was a slightly depressed scar, not over one-half inch (1.2 cm.) in diameter, on the center of the right cheek. Around this area, one half to three fourths of an inch (1.2 cm. to 1.9 cm.) in depth, there was a flat, thickened area. This extended from the angle of the jaw to a little below the right eye and seemed to be made up of three distinct

lobules which were in front, above and below the scar. The inside of the mouth was not involved. A large, hard, but not tender, gland was under the right axilla. The teeth were in bad condition. No active lupus was present. Ultraviolet radiation had been applied without benefit. Antisyphilitic treatment by mouth had had no effect. The Wassermann reaction was negative.

DISCUSSION

DR. FOX: The presence of the irregular indurated masses in the cheeks is strongly suggestive of paraffinoma, though the history is against such a diagnosis.

DR. MACKEE: Clinically the case looks exactly like one of paraffin prosthesis. The patient has had considerable radium treatment with radium and it is possible that the condition now represents a radium sequela of the sclerodermatous type.

DR. ANDREWS: I believe this patient denied having had any radium seeds. Such a sclerosis might follow radium seeds and might now resemble a paraffinoma. I am inclined to think that it is simply a chronic inflammatory process. The fact that it has been getting smaller lately would seem to support that theory. I believe that a biopsy would show fibrous tissue.

DR. OULMANN: There are some other signs of the injury caused by the application of radium — the pigmentations and telangiectasis. I regard the condition as a fibrosis in a patient overtreated by radium.

LUPUS ERYTHEMATOSUS? Presented by DR. OCHS.

A young woman, presented before the Society in November, had a condition diagnosed as lupus of the nose. The Wassermann reaction was 4 plus and improvement followed antisyphilitic treatment.

DISCUSSION

DR. ROSEN: I saw this patient when presented last month. The involved area consisted of pinhead-sized, brownish-red nodules arrayed in the form of a crescent. On account of the small area involved I suggested the possibility of syphilis and suggested antisyphilitic treatment. At present the lesions are absent, and a superficial scar remains. This improvement resulted from a few injections of neoarsphenamine and bismuth. I think it was a syphilid.

DR. OULMANN: I agree with Dr. Rosen's discussion of the case.

DR. SATENSTEIN: I agree with Dr. Rosen that what we see tonight in this patient are the end-results. I believe the patent follicular orifices are the remains of lesions.

DR. PAROUNAGIAN: I agree with Dr. Rosen that this is a case of syphilis. I agreed with that diagnosis at the last meeting.

NEVUS PIGMENTOSUS. Presented by DR. ELLER.

E. M., a woman, aged 26, presented a bluish-black nonhairy mole the size of a small pea, which had been present on the right cheek about 1½ inches (3.7 cm.) below the lower right eyelid since birth. The lesion had remained stationary in size for years, and the patient wanted to have it removed for cosmetic reasons. The case was shown for an opinion as to the advisability of removing it.

DISCUSSION

DR. ANDREWS: Excision is without danger and is the best method.

DR. MACKEE: It is the consensus of opinion that these blue-black moles are potentially dangerous. If not irritated or stimulated they usually do not cause trouble, but if irritated in any way or if, when treated they are not completely destroyed in one treatment, they are prone to grow rapidly, spread through the body and cause death. I agree with those who think that these lesions should be let alone unless they are being irritated or unless they show the slightest signs of activity. In such instances, I favor one or two strong applications of radium followed by a wide, deep excision. There are numerous cases on record in which quiescent lesions of this type have been excised and the condition reappeared in the same location and in other parts of the body. While I think that a radical excision, as mentioned by Dr. Andrews, is as safe as any method, I cannot regard it as being entirely without danger.

DR. FOX: The lesion corresponds to the bluish-black mole embedded in the skin described by Pusey as dangerous. In this patient, as the lesion is not subject to continued trauma, I agree with the previous speaker that it should be let alone.

Drs. Mount, Gilmour and Ochs agreed that this lesion should be let alone.

DR. BECHET: I agree with Dr. MacKee about not treating this lesion. If something must be done, I should prefer to use surgery or electrodesiccation rather than radium. The chances of expansion through metastasis would perhaps be less after the use of electrodesiccation.

DR. SATENSTEIN: A patient at the Vanderbilt Clinic a few years ago, had a pigmented nevus on the buttock. The area about the nevus was thoroughly coagulated before the lesion was destroyed. A year later a melanoma developed in a gland of the groin, and this was removed. The patient later died of a general metastasis of pure melanoma.

DR. ELLER: I think that some moles are more dangerous than others. Some have a sac which surrounds the pigment; while in others the pigment is diffused in the skin, in which case it is not known how far from the visible part of the lesion the pigment extends. Ten months ago I excised a black mole that was growing. The endothermy knife was used. The tissue far beyond and below the lesion was cut, and the mole intact, with its sac complete, was brought to the laboratory of the clinic for microscopic study, in which the pigment-bearing cells were demonstrated. Later, applications of radium were made to the area originally affected, and the surrounding glands received prophylactic doses of filtered roentgen ray. Up to date there has been no recurrence. The patient is still under observation.

ERYTHEMA INDURATUM. Presented by DR. OCHS.

L. G., a woman, aged 21, unmarried, presented four circinate lesions on the lower part of the right leg, the smaller of which showed atrophy in the center. The largest lesion was sharply defined, measured about 1 by ¾ inches (2.5 by 1.8 cm.) and was of a dusky hue.

On the left leg were a series of the same lesions, which were not so sharply defined, so pigmented or so dusky. On the anterior part of the ankle, as well as on the outer side of the leg close to the patella, were two distinct scars from previous lesions. The duration of the disease was three years.

On the posterior surface of the right leg, close to the ankle, there were several, small, deep nodules.

DISCUSSION

DR. BECHET: I agree with Dr. Ochs' diagnosis. The scars are typical of old lesions of Bazin's disease that have ulcerated superficially and healed. The location of the scars is also that of a healed erythema induratum.

DR. SATENSTEIN: I could not see anything active here. It seems to me it is nothing but the end-results. The scar tissue and atrophy resemble somewhat the results seen after Bazin's disease has subsided. I would not say definitely that it is Bazin's disease now.

DR. OULMANN: I cannot agree with the diagnosis of Bazin's disease. There are white, glossy superficial scars as large as a fifty cent piece, with a brownish, pigmented margin. They are too superficial for Bazin's disease. I cannot agree with a diagnosis of lichen planus, either. Some of the lesions are too large, and the scarring of the center is against it. There are without doubt two fresh nodular lesions in the back of one leg. They are bluish red, situated in the cutis, movable, but attached to the epidermis. I would not make a diagnosis here without further study of the case.

DR. MOUNT: This patient has lesions in the membrane of the mouth which surely look like lichen planus. She also gives a history of having had these areas on her legs treated with some kind of acid, and the ulcers she speaks of might come from that. Taking into account the pigmented rings around the scars on the legs and the lesions in the mouth, which resemble lichen planus, I think one is justified in calling the whole condition lichen planus.

DR. MACKEE: I doubt that this is a case of Bazin's disease, and I suggest the diagnosis of hypertrophic lichen planus or at least the remains of it. The lesions are on the anterior surface of the legs instead of on the posterior surface, which is usually the case in Bazin's disease. There is some annular configuration, deep pigmentation, and the scars are superficial. Each lesion has left a scar, and each lesion was treated with acid, according to the patient's statement. One of the lesions shows considerable reticulation, which is commonly seen when lichen planus of the hypertrophic type is undergoing involution. Of course, if the scars were present before the acid was applied, lichen planus may be ruled out. The white lesions in the mouth suggest either lichen planus or lupus erythematosus. They do not suggest leukoplakia. If it is not lichen planus, the diagnosis may be Bazin's disease of the legs and lupus erythematosus of the mouth.

DR. GILMOUR: How can a diagnosis of lichen planus be made? The patient had spontaneous ulcers, and it was the ulcers that were treated with acid.

DR. FOX: All that can be seen at present is the end-result of a former process. From the age, sex, location of the lesions and their symmetry, together with a history of former ulceration, the diagnosis of Bazin's disease is the most probable one. The patient stated that she had had open sores, which would rule out the possibility of a lichen planus. Histologic examination of an active lesion would, of course, settle the question as between these two diseases.

I could not take lichen planus into consideration here, first, because of the location of the disease, the sex and the history of the patient; and second, because of the absence of itching. Lichen planus in that region would be intensely itchy, and especially so about the shoetops, where there would be irritation in walking.

ERYTHEMA INDURATUM AND PAPULONECROTIC TUBERCULID. Presented by DR. BECHET.

S. W., a girl, aged 20, from Dr. Aillsen's service, said that two and one-half years previously she had noticed several large nodules on the posterior aspect of both lower legs. These lesions had recurred repeatedly since that time and consisted of typical purplish-red indurated large nodules, several of which had necrotic centers. The lesions on the backs of the hands had been present for eight months. They were papular dark red, and some had necrotic centers. Here and there a varioliform scar could be observed on the forearms. The patient was to be treated with gold thiosulphate and shown again at some future meeting.

DISCUSSION

DR. FOX: My experience with the treatment of papulonecrotic tuberculid has ordinarily been disappointing, although Darier states that he has had excellent results from injections of mercurial preparations, and also speaks well of arsphenamine. Recently I tried the electric cautery on a fresh lesion of two days' duration, and it underwent involution in a few days instead of the month usually required. A second fresh lesion responded to the same treatment in an equally satisfactory manner.

LUPUS ERYTHEMATOSUS. Presented by DR. PAROUNAGIAN.

Mrs. Y. K., aged 39, had a disease of the skin of about fifteen months' duration, which had been treated with solid carbon dioxide with excellent temporary results. Discoid lesions were scattered over the face. The patient was presented for therapeutic suggestions.

DISCUSSION

DR. OCHS: On account of the thick horny layer I would use a 30 per cent solution of salicylic acid in alcohol, then apply solid carbon dioxide for forty or fifty minutes with firm pressure.

DR. SATENSTEIN: I have not seen many cases like this in recent years, but in the past I had a number of them. I think the condition, if let alone, will disappear spontaneously. The advancing areas are all cleared up, and only the central portion of the lesion is left. If the margins are taken care of, that will clear up of its own accord.

DR. ROSEN: Recently at the Mount Sinai Dispensary, Dr. Chargin has been using gold thiosulphate made by Dr. Schamberg of Philadelphia, in increasing doses to the maximum of 100 mg. for each injection. One patient, a woman, aged 45, at the present time pregnant, who has had the disease for fifteen years or more, with typical lesions on the face and chest, received three injections. After the fourth injection she developed a severe reaction with a generalized erythema multiforme eruption of the bullous type. Her temperature was 104.5 F. for a few days. Her temperature subsided after about ten days, and the eruption gradually disappeared. When I saw her recently all the lesions on the face and chest had practically disappeared: there was nothing left but the scars resulting from the previous treatment and pigmentation over the involved area.

DR. BECHET: I am much interested in the intravenous administration of gold injections in lupus erythematosus, and the results so far are promising. I am at present using Dr. Schamberg's gold thiosulphate in doses of 100 mg.

once or twice a week, not only in lupus erythematosus, but in all tuberculous eruptions of the skin, including the tuberculids. Several patients have shown marked improvement. One case of acute disseminate lupus erythematosus, with the entire chest, neck and arms involved, cleared up entirely after twelve injections. After nine months without treatment there has been no recurrence. It was thought at the beginning of the treatment that the patient would die from the general toxemia of the disease, but instead, he gained 20 pounds (9 Kg.) and his general health at present is exceptionally good. An interesting fact is that in the discoid type of lupus erythematosus there is a noticeable reaction in the lesion itself after the first few injections. In my series of cases I am using nothing but the gold thiosulphate, either locally or internally. I am not getting any reactions with the gold thiosulphate, even when administered twice a week. With gold protein there were reactions almost invariably, sometimes severe, but never alarming. The remedy is still in its early experimental stage, and nothing definite can be said as yet. The results so far in a considerable number of cases under my care are more than promising, and it may well be that further experience will demonstrate that it is of great value, particularly in the disseminate type of lupus erythematosus.

DR. FOX: We are all interested in the results of treatment with the two gold compounds which Dr. Schamberg has prepared, one of which Dr. Saunders is trying in our clinic. In a private patient, who was treated lately with the gold thiosulphate, there was such a reaction, consisting of malaise, nausea and vomiting, that the patient was unwilling to continue the treatment. Another patient, on the other hand, has tolerated the drug well and is improving.

DR. MACKEE: The first preparation produced by Dr. Schamberg was a gold protein. I understand that the preparation that he is now making is not gold thiosulphate, but a combination of the gold protein and sodium thiosulphate. Some of the reactions may be due to the protein, but I think that Dr. Schamberg, who has studied the question carefully, considers that the reactions are due to the gold. He advises discontinuance of the gold treatment in patients who are sensitive and treatment of the reactions with sodium thiosulphate. I have seen severe systemic and cutaneous reactions with all preparations, but not by any means in all patients. I have had several excellent results and a few failures.

DR. ANDREWS: I have not used Dr. Schamberg's gold thiosulphate, but I have used 4 amino-2 auro-thiophenol carbonic acid in small doses. All of the severe reactions abroad resulted from large doses. Therefore I am using minute doses, given every three weeks intravenously. So far I have had good results without reactions. I have treated about twenty patients. Most of them had lupus erythematosus of the discoid type all over the face. In one case the disease practically disappeared in two weeks. I do not know whether the results will be permanent.

RADIODERMATITIS. Presented by DR. ELLER.

R. V., a woman, aged 22, unmarried, presented areas of pigmentation, telangiectasis and atrophy on the cheeks, upper lip, chin and sides of the neck. Some of these areas presented a growth of hair. Two years previously the patient had had a profuse growth of hair on the cheeks and chin, and had been treated for this condition with the roentgen ray by an "advertising physician." The last treatment given was six months before presentation. In all, the patient had received twenty-nine roentgen-ray treatments.

DISCUSSION

DR. SATENSTEIN: Two months ago I presented a woman who had a radiodermatitis from treatments received twenty years ago, and someone suggested the possibility of a malignant neoplasm. I saw the patient recently, and there is a definite epithelioma.

DR. FOX: This case again brings up the question of reporting bad results from this improper treatment in hypertrichosis to the Bureau of Investigation of the American Medical Association. One patient I saw recently presented extensive areas of telangiectasis of the thighs following roentgen-ray treatment for hypertrichosis.

DR. BECHET: Since the appearance in this city of a considerable number of places where these unfortunate persons may be treated with the roentgen ray, I have noted a marked increase in radiodermatitis following its use for hypertrichosis.

URTICARIA PIGMENTOSA? Presented by DR. ELLER.

W. M., a boy, aged 7, presented a discrete, brownish-red, pigmented, macular eruption on the trunk and extremities. This eruption had been present six months. The lesions were circular, and the average size was that of a split pea. There were no subjective symptoms. Rubbing the lesions raised them slightly. A differential blood count was normal. The child was apparently well in every other way.

DISCUSSION

DR. MACKEE: The lesions in this case appear to be purpuric, pigmented and telangiectatic. I doubt that it is a case of urticaria pigmentosa. Apparently it should be placed in the telangiectatic group. Possibly it is an early case of angioma serpiginosum.

DR. FOX: I agree with Dr. MacKee that this is not a case of urticaria pigmentosa. If this were urticaria pigmentosa it would be unique in appearing at this particular age. The disease appears in adults, it is true, but the type seen in children invariably begins in infancy.

DR. ELLER: Macular eruptions have been described in this disease. A section of one of the lesions will be taken for microscopic study.

EPITHELIOMA DEVELOPED IN A GUMMA. Presented by DR. PAROUNAGIAN.

J. P., aged 39, who was referred to the Bellevue Syphilitic Department on Nov. 27, 1926, said that he had not had any syphilitic infection. His Wassermann reaction was 4 plus. A lesion which consisted of a palm-sized, hard, ulcerated tumor, was located at the right angle of the mouth, involving the buccal mucosa. The duration was said to be six months. Since November 30, the patient had received two silver arsphenamine and three mercuric salicylate injections, and showed marked improvement. Dr. Symmers reported that a microscopic section showed squamous cell epithelioma.

DISCUSSION

DR. ANDREWS: I do not know what to say about this case. I could not make out much epithelioma tonight. The lesion is nodular and boggy, and the only hard part of it is a feeling inside the mouth, a boardlike feeling in the cheek. The possibility of actinomycosis might be considered.

Dr. MacKee: My impression is that the lesion is an epithelioma. The lesion appears to be too large, too hard and too active for a gumma. It does not have the appearance of having improved under treatment. One frequently hears of an epithelioma developing on a gumma, but I believe that such an occurrence is rare. Epithelioma develops in the scars left by gummas; also on syphilitic leukoplakia, on syphilitic interstitial glossitis and in cases of syphilitic smooth atrophy of the tongue, but certainly an epithelioma is seldom encountered in a syphilitic gumma. I regard the diagnosis in Dr Parounagian's case as epithelioma in a patient who has syphilis.

Dr. Rosen: If the microscopic report was that of carcinoma, I see no reason why you should treat this patient for months for the syphilitic infection and lose valuable time. Therefore I suggest immediate treatment of this carcinomatous mass, disregarding the syphilitic infection for the present.

Dr. Satenstein: The carcinoma should be treated first, as that is the important condition, that threatens the life of the patient.

Dr. Parounagian: I made a diagnosis of gumma and epithelioma for the reasons that the man had a 4 plus Wassermann reaction and that the lesion was too extensive. In two weeks two injections of silver arsphenamine and three injections of mercury produced about 30 per cent improvement. The diagnosis of epithelioma was made on the report of the microscopic examination. I think I am justified in continuing antisyphilitic treatment a little longer before having the epithelioma treated. It is my firm belief that epitheliomas do develop on syphilitic gummas, especially on lesions of the mouth and tongue.

David L. Satenstein, M.D., Secretary.

PHILADELPHIA DERMATOLOGICAL SOCIETY

Regular Meeting, Dec. 3, 1926

Rose Hirschler, M.D., *Presiding*

Pityriasis Lichenoides Chronica (?). Presented by Dr. Klauder.

J. I., a white man, aged 30, had had an eruption for two weeks. It was first regarded as a maculopapular type of syphilis, but there was not a primary lesion, and the Wassermann reaction was negative. The second diagnosis was pityriasis lichenoides chronica of Juliusberg. Some of the lesions were infiltrated, and some slightly scaly. They were mildly pruritic.

DISCUSSION

Dr. Brown: I consider this to be secondary syphilis, in spite of the negative Wassermann reaction. There is epitrochlear enlargement.

Dr. Weidman: I do not think it is syphilis. Some of the infiltrations are too deep and too definite for the Juliusberg form of parapsoriasis. I think this may be referable to some internal disturbance, expressing itself in a papular eruption. Perhaps it is an expression of a toxic state.

Dr. Schamberg: I agree that it is not syphilis, and because of the brief duration I should not care to call it the pityriasis of Juliusberg. I agree with Dr. Weidman that it is the expression of a toxic state. However, if it persists, the diagnosis of the presenter may be seriously considered.

DR. KLAUDER: The Wassermann and Kahn tests were both negative. The term chronica does not apply to this case, but there must be a beginning to any eruption.

DR. WEIDMAN: I think that leukemic dyscrasia might appear in this form, although it would not be so extensive nor so symmetrical as this eruption.

BASAL CELL EPITHELIOMA. Presented by DR. CHAMBERS for DR. STOKES.

H. S., a man, aged 35, had a lesion of eight years' duration. There had been a mild pruritus, and the scratching had caused excoriations. It then became covered with a scale and extended peripherally. A biopsy was performed, and the histologic report was that the lesion was the Krompecher type of epithelioma.

DISCUSSION

DR. WEIDMAN: I wish to call attention to the brownish color of the otherwise pearly nodules which cover the plaque and to the histologic aspect. The brownish color of the elevations is explained by unusually large pigmented cells in the basal layers and in a few of the extensions below that level. The cells are loaded with extremely minute pigment granules which might be mistaken for bacteria or albuminous granules in the cytoplasm. Whereas this is technically a melanocarcinoma, the clinical course and the fact that it does not agree histologically with Gilchrist's carcinoma, indicate that this lesion is relatively nonmalignant. As to treatment I should advise the use of radium.

DR. SCHAMBERG: I should like to know the origin of the epitheliomatous growth. What is the explanation of the sharp difference in the staining reaction between the pars papillaris and the subpapillary layer?

DR. WEIDMAN: I consider that the origin is from the basal cells of the epidermis. As to the difference in the stain, there is a broad zone of edema between the pars papillaris and the subpapillary layer, perhaps due to the local medicaments which have been used.

DR. KLAUDER: How is this condition differentiated from Pagetoid epithelioma?

DR. WEIDMAN: In the Pagetoid epithelioma there is more scar development and loss of the nodules, but prognostically it might belong to the same category.

URTICARIA. Presented by DR. KLAUDER.

L. U., a white woman, aged 30, had had urticaria for fifteen years. Aggravation occurred at each menstrual period, and at the same time it was associated with acute abdominal pain, fever and gastro-intestinal disturbances. Purpuric lesions could be produced by compression around the arm with a tourniquet. Attacks were usually associated with definite constitutional upsets. In an urticaria of this type a thorough search for causes is necessary. The acute abdominal pain might be a part of an anaphylaxis to food. Other symptoms observed were attacks of sneezing and high fever. The woman's daughter was said to have the same condition.

DISCUSSION

DR. WRIGHT: I should like to ask Dr. Klauder whether he has observed any difference during pregnancies. Two years ago I had a patient with a chronic urticaria, who gave a history of freedom from attacks during pregnancy. A relapse occurred following resumption of the menstrual cycle. She was given deep roentgen-ray therapy over the ovaries with the idea of lessening

ovarian activity, following which she was extremely ill for a day or two. Shortly afterward the urticaria disappeared.

DR. DENGLER: I knew of a case of urticaria in which the patient tried to produce an abortion, leaving the needle in the uterus. During the time the needle was there she was subject to outbreaks of urticaria.

DR. SCHAMBERG: Long-standing cases of urticaria are commonly of nervous origin. I have seen cases produced by psychic shock. Some are due to toxins, and these cases are best studied by a man who knows general medicine. The tests with the allergens have not been satisfactory in the chronic cases. With commercial antigens group tests are frequently positive, whereas with the individuals of the group they are commonly negative.

DR. WEIDMAN: Barker is of the opinion that attacks of urticaria indicate disease of the gallbladder.

ALOPECIA WITH DEVELOPMENT OF CURLY HAIR FOLLOWING TREATMENT WITH ALPINE LIGHT. Presented by DR. CHAMBERS for DR. STOKES.

H. G., a young girl, had a spot of alopecia, which was treated by the alpine lamp and by local stimulants. Curly hair grew in this spot, whereas the rest of her hair was straight.

DISCUSSION

DR. STRAUSS: New hair which appears after treatment for alopecia seems to be of the same type as the patient had in childhood. This happens both in the complete and in the localized alopecias. Results with the alpine light seem to be better than those obtained with direct sunlight.

GRANULOMA ANNULARE. Presented by DR. CHAMBERS for DR. STOKES.

T. E., a boy, aged 6, two years ago injured his knuckles. Four months later a group of papules, appeared and gradually spread peripherally. These gradually involuted, but without much central atrophy. Subjective symptoms were not noticed. The Wassermann test was negative, but the patient's mother and sister were receiving antisyphilitic treatment. Sections of the lesion showed the histopathologic picture of granuloma annulare.

DISCUSSION

DR. WEIDMAN: The section was typical of granuloma annulare, but the lesion lacked the central atrophy which is clinically characteristic of that disease. The elevation was uniform.

LUPUS ERYTHEMATOSUS TREATED WITH GOLD AND SODIUM THIOSULPHATE. Presented by DR. WRIGHT.

Mrs. H. G., aged 44, had a lupus erythematosus of three (?) years' duration. Almost the entire face was covered a purplish or bluish red eruption with a tightly adherent scale. The patches were also present on the ears, the chest, the backs of the hands and on the legs. There was a considerable degree of scarring on the face. In February, 1926, an injection of gold chloride was given intravenously, following which the patient developed severe urticaria. Further treatment was not given until August 12, when 5 cc. of a 2 per cent colloidal suspension of gold chloride was injected intravenously. The same dose was injected at intervals of a week for four successive weeks. Following the fourth injection she again had a slight reaction, and, although there was marked

improvement at this time, gold thiosulphate was substituted for colloidal gold. Up to the time of presentation the patient had received six injections of 100 mg. each of gold and sodium thiosulphate in solution and was almost free of the eruption. In fact, at that time it would have been impossible to make a diagnosis.

LUPUS ERYTHEMATOSUS. Presented by DR. GREENBAUM.

L. L., a tailor, aged 36, had had an elevated lesion of one cheek eighteen years ago, which had disappeared, and subsequently a red spot had developed on each cheek. In 1921, he had received radium treatments to these areas, and this was said to have caused the condition to spread over both cheeks and over both frontal regions. It itched and burned, and the sun seemed to make it worse. He was given gold and sodium thiosulphate intravenously, and after the eighth injection, on Nov. 23, 1926, itching had developed on the chest and feet. Examination showed about twenty dime-sized erythematopapular lesions, slightly elevated and definitely infiltrated, suggesting the papular lesions of erythema multiforme. The existing lesions of the left ear were decidedly redder than before treatment, a condition which suggested definite focal reaction. Subsequently the patient had had four injections of thiosinamine, of 3 grains (0.2 Gm.) each, intramuscularly. There was marked improvement as compared with the original condition.

LUPUS ERYTHEMATOSUS (?). Presented by DR. STRAUSS.

O. O., a man, aged 24, had a condition tentatively diagnosed as lupus erythematosus for which he had been treated with gold. He was showing improvement. He had had the eruption nine months. He had grouped lesions primarily papular and pustular, which had left depressed pigmented scars on involution. They were purplish red and were infiltrated.

DISCUSSION ON LUPUS ERYTHEMATOSUS

DR. WEIDMAN: We have all seen the favorable effects of gold in lupus erythematosus. At the last Dermatological meeting in New York, a case of extensive lupus was shown in which the patient had improved remarkably under treatment with gold. At this meeting it was the general opinion of those who had used the gold treatment that the protein preparations were not so good as those of thiosulphate. A few unfavorable reactions were also reported. One of the members said that there had been some recrudescence of the condition in one of his patients. This form of treatment has accomplished more in the amelioration of the eruption of lupus erythematosus than has anything else. In regard to the last case presented, to be fair to the patient a biopsy should be made before a final diagnosis of lupus erythematosus is made.

DR. SCHAMBERG: Dr. Wright and I have been using gold for more than two years. After I had presented before the American Dermatological Association cases of lupus erythematosus in which the patients had been treated with this metal, I was called to supply this gold to various colleagues. At the present time an article presenting the results in twenty-five cases of lupus erythematosus is in press. In 50 per cent of the cases the eruption disappeared, or virtually so. In the remaining cases nearly all the patients were improving, with the exception of a few who were timid and interrupted treatment. There was one death in an acute case bordering on the disseminated variety. Gold must be used cautiously, for it may stimulate the outbreak of lesions. Patients vary

in their liability to reactions. Some may take any number of injections without reaction. There is a difference in the toxicity of preparations of gold. Since 1913 the Germans have been using 4 amino-2 auro thiophenol carbonic acid. This is distinctly more toxic than gold and sodium thiosulphate as has been shown by animal experimentation. The restraining effect of gold on the growth of tubercle bacilli, demonstrated first by Koch in 1890, is of interest. If it can be proved that gold has a curative effect in lupus erythematosus, another link would be forged in the imperfect chain of evidence of the tuberculous origin of lupus erythematosus.

DR. STRAUSS: Is there any difference in treating patients previously exposed to considerable roentgen-ray therapy as compared to those who have had none? I had noticed two cases in which the patients had previously received roentgen-ray treatment in which the eruption has not yielded to gold. I have used amino-auro thiophenol carbonic acid in seventeen cases with striking results. The dose begins at 0.01 Gm. and is gradually increased to 0.1 Gm., but in recent cases I have begun with 0.1 Gm., without any reaction.

DR. SCHAMBERG: The patients who have been treated with the roentgen rays or with radium show considerable changes in the structure of the skin, and therefore a good cosmetic result is not obtained. Amino-auro thiophenol carbonic acid contains 55 per cent gold, and the highest tolerated dose in white rats is 20 mg. per kilogram. Gold and sodium thiosulphate contains 38 per cent of gold and the highest dose tolerated by white rats is 35 mg. per kilogram.

DR. STRAUSS: The young man in the last case would not permit a biopsy.

LUPUS VULGARIS. Presented by DR. CHAMBERS for DR. STOKES.

Mrs. F. S., an Italian, aged 66, in May, 1926, noticed small pinhead to pea-sized papules over the right eye. A few days later, other similar lesions were noticed on the right lip and on the right side of the nose. Others appeared over the flush area of the right cheek. They began as papules, soon became pustules, and at last developed a crust. Some of the lesions involuted, leaving depressed scars. There was moderate local tenderness when the patient was first examined in September. The Wassermann reaction was negative, both before and after a provocative test of old arsphenamine. The cutaneous lesions were considered as lupus vulgaris, and the patient had been put on routine local treatment. In addition six small tonic doses of neoarsphenamine had been given. Irradiation with a quartz lamp was given, with both general and local exposures. Locally, Brook's ointment was used. Roentgenograms of the chest and clinical examination were negative for tuberculosis. Blood counts, blood chemistry and urinalysis were all normal. Guinea-pigs had been inoculated with material from a biopsy but the result had not been reported. Dr. Weidman's report from microscopic examination was that of granuloma.

DISCUSSION

DR. WEIDMAN: The histologic appearance suggested blastomycosis, but blastomycotic organisms could not be found. Cultures were negative. I do not wish to make a definite diagnosis. The course was rather rapid for tuberculosis. I think that there is an infection, perhaps caused by mixed organisms, which is responsible for some of the puzzling granulomas. A case was previously shown before the society with extensive ulceration, in which nothing

but diphtheroids were found. Another patient had extensive tuberculous lesions of the skin, in which the bacilli were never found, even at autopsy, although the patient had tuberculous bacilli in the sputum.

DR. SCHAMBERG: I think that the extent of the eruption is too great for a lupus of nine months' duration. One rarely sees lupus vulgaris spread so rapidly. Furthermore, characteristic lupus nodules are not present. Under the microscope the picture is not that of lupus. It is evidently a more acute granulomatous condition than tuberculosis of the skin. Blastomycosis cannot be definitely diagnosed unless the blastomyces are found.

SPOROTRICHOSIS. Presented by DR. SCHAMBERG.

R. I., a white man, aged 55, had been first seen three weeks previously with an irregular, ragged ulceration on the leg, 3 or 4 cm. in diameter. At the same time he had a red swelling the size of a cherry below the knee and a larger swelling above the knee. A cordlike infiltration of the lymphatics extended to the inguinal glands. The first lesion noticed was a small pustule. Cultures showed at first only streptococci and staphylococci. There was not a history of injury. The swelling had been incised and cultures from this showed *Sporotrichum schenckii*. Lesions produced in rabbits and cultures of the organisms were shown. Sporotrichosis is rare in this section of the country, though not uncommon in the Mississippi valley. It is believed by Foerster that the sources of the infection is the bark and thorn of barbery bushes. *Sporothrix* has been cultivated from the thorns. It may occur in horses and in other animals. It is possible that the patient contracted this condition on the golf course.

DISCUSSION

DR. STRAUSS: Both cases of sporotrichosis which I have seen agreed with Foerster's theory.

DR. WEIDMAN: Although the barberry bush is a source of infection, Crutchfield has added that fertilizer must also be suspected. Of course, the alimentary tract of the herbivorous animals is full of fungi, and this excreta is used as fertilizer on golf courses. In preparing microscopic mounts of cultures it was difficult to make the spores adherent to the mycelia, so it is better if a thin stratum of agar be lifted off and mounted. The hanging drop might also be used, but the least disturbance makes the spores drop off; then the arrangement is lost, and diagnosis is difficult or impossible.

DR. SCHAMBERG: I should like to call attention to the large endospores in the mycelia seen under oil immersion, and to the large grapelike structures outside. The intermediate source of the infection appears to be vegetation of the bush type. Fourteen out of eighteen of Foerster's cases occurred in employes of a tree nursery.

A CASE FOR DIAGNOSIS. Presented by DR. CHAMBERS.

M. C., a negro, had had lesions on the jaw for five years. They began as nodules and spread slowly, finally breaking down and leaving deep sinuses. Smears and cultures of the straw-colored discharge from these sinuses were repeatedly negative for actinomyces. Roentgenograms of the mandible were also negative for any bony changes. All studies of the blood were negative. The patient had been receiving 325 grains (21 Gm.) of potassium iodide daily and local roentgen-ray therapy. There had been only slight improvement.

DISCUSSION

DR. WEIDMAN: Material from the deepest part of the lesion has been thoroughly examined, and ray fungi or simpler mycelial forms were not found in any instance. Gram staining showed some mycelial forms as well as diphtheroid bacilli. This might be a case of mixed infection.

DR. WRIGHT: I should like to suggest the diagnosis of tuberculosis. The ray fungus is usually demonstrable in actinomycosis and in this case its absence and the negative roentgen-ray studies of the bone would definitely rule out actinomycosis. I have seen a condition involving the foot and ankle which clinically had the same appearance as the present case. In that case histopathologic examination of tissue from the foot following amputation showed a tuberculous condition.

DR. GREENBAUM: I think that the therapeutic effect of gold should be tried. Clinically, this case looks like actinomycosis rather than tuberculosis. I recall a case in which it took months of repeated examinations to demonstrate the ray fungus.

DR. CHAMBERS: Roentgen-ray examination of the chest was negative for tuberculosis.

CARROLL S. WRIGHT, M.D., Secretary.

NEW YORK ACADEMY OF MEDICINE, SECTION ON DERMATOLOGY AND SYPHILIS

Regular Meeting, Dec. 7, 1926

M. B. PAROUNAGIAN, M.D., *Chairman*

A CASE FOR DIAGNOSIS. PRURIGO-LIKE ERUPTION. Presented by DR. CHARGIN.

This patient was previously shown at the November, 1926, meeting of the Brooklyn Dermatological Society.

DISCUSSION

DR. WISE: We are forced to make a diagnosis by exclusion, and on that ground I think it is the papular type of Duhring's disease.

DR. OCHS: I treated the patient about five years ago. At that time he had papules on both forearms that were pruriginous, and I made a diagnosis of papular urticaria.

DR. LANE: Does Dr. Ochs still consider the condition urticaria papulosa?

DR. OCHS: I do not.

DR. LEVIN: In view of the duration, distribution, itching and general nature of the lesions, I agree with the diagnosis suggested by Dr. Wise, namely, a papular form of dermatitis herpetiformis.

DR. CHARGIN: I cannot agree that this is a case of dermatitis herpetiformis, unless we enlarge our conception of that disease. The essential lesion here is a large papule, not a papulovesicle. While there are a few groups of lesions, most of the lesions are scattered without any grouping. For the most part, the lesions are on the extensors of the legs and arms, the body in general being free from them. Furthermore, the patient definitely denies that there was itching, although he shows numerous scratch marks which he mechanically produces through habit, scratching the lesions while in bed before falling asleep.

LEUKEMIA CUTIS AND LYMPHOSARCOMA. Presented by DR. CHARGIN.

M. W., aged 51, married, a collector, said that about six months previously he had noticed an enlargement of the neck for which he sought relief at Mount Sinai Hospital in August, 1926. At that time he presented an enlargement of the glands of the neck and an enlarged spleen. There was also some general adenopathy. The blood pressure was 116 systolic and 70 diastolic. Examination of the blood showed: hemoglobin 90 per cent; white blood cells, 6,300; polymorphonuclears, 83 per cent; lymphocytes, 16 per cent. A section of a lymph gland showed lymphosarcoma. The patient was placed under roentgen-ray therapy, and soon after the fourth exposure he developed an eruption on the forehead, neck, arms and forearms (especially the extensor surfaces) and on the dorsal aspect of the hands. There were a few scattered lesions on the abdomen and buttocks, fairly numerous lesions on the extensors of the thighs and legs, and numerous lesions on the dorsa of the feet. At this time the glands in the neck and in the axillary regions, while still felt, were considerably smaller than when he was admitted to the hospital. The eruption was papular. The lesions varied from the size of a millet seed to that of a pea. They were reddish or of normal skin color, and itched so severely that the patient was compelled to scratch, in consequence of which there were many excoriations and scratch marks. A biopsy showed foci of inflammatory cells and spindle cells surrounding blood vessels. Evidence of lymphosarcoma was lacking.

DISCUSSION

DR. WISE: The patient presents a classical papular eruption which sometimes accompanies leukemia. I think it is one of the best examples of its kind presented before the section.

POIKILODERMA. Presented by DR. TRAUB.

A. Z., aged 16, born in the United States, first visited the service of Dr. Williams on Dec. 5, 1925. She had had no previous illnesses except measles. The eruption she presented had been present for eight years, and consisted of patches of various sizes which showed considerable telangiectasia and some atrophy. The color did not disappear under pressure. She had not received any treatment except with ointments and lotions. A section was removed for histologic examination, and was reported on as follows: "Section shows numerous small blood vessels in the upper corium and a longitudinal section of a blood vessel that extends down into the deeper corium. All the vessels are surrounded by a thick connective tissue infiltration."

During the past year the patient had received fifteen fractional roentgen-ray treatments, which seemed to have improved her condition more than the lotions and ointments previously used. The dosage consisted of one-fourth or one-third skin unit exposures at monthly intervals. She had never shown any reaction.

DISCUSSION

DR. LANE: On seeing a case of this kind for the first time, about all one can say is that it does not seem to fit in with any other disease. There is a spot on the left thigh that is fairly characteristic, though the telangiectasia is not so prominent as in a typical case and the similarity to chronic radiodermatitis is not quite so definite. I shall be interested to see the result of mild roentgen-ray treatment. In one case which I saw there was considerable injury from the roentgen ray. I do not know what dosage was given. Theoretically, I should consider that the roentgen ray is contraindicated.

DR. POLLITZER: I agree with what has been said; in all probability the disease is poikiloderma, but in all of these cases in their early stages the diagnosis should be made with some reserve. I should say on theoretical grounds that the use of the roentgen ray is a bad method of treatment; I do not know what it can accomplish, and there is the risk of aggravating the condition in which there is obviously a tendency to the development of telangiectasia and atrophy.

DR. WISE: The case was brought up for discussion as to diagnosis, but I will take the liberty of suggesting that the ultraviolet light given in erythema doses might bring about a good result; for angioma serpiginosum, which this condition resembles, does resolve under such treatment, and I think it should be tried. I am inclined to agree with what Dr. Pollitzer said about roentgen ray.

DR. TRAUB: The reason the roentgen ray was tried is that several years ago a case similar to this was shown at the New York Dermatological Society, where everyone agreed with the diagnosis. Dr. Whitehouse referred the patient to me for roentgen-ray treatment, and there was sufficient improvement to warrant a trial in this instance.

IMPETIGO. Presented by DR. WALZER for DR. LAPOWSKI.

A. S., a married woman, aged 35, had had no abortions or stillbirths. Five weeks prior to presentation she had had pneumonia, and toward the end of the disease (three weeks later) the lesions first appeared on the lower extremities and gradually spread.

As presented, the trunk and upper extremities were chiefly affected. The primary lesions consisted of pea-sized or larger, seropurulent and purulent vesiculobullae, many of them flaccid, and some of them tense. These lesions gradually extended peripherally, forming annular or serpiginous patches of various sizes and shapes, with pronounced borders of either new or crusted lesions, an inflammatory areola and clear centers. The entire eruption, therefore, was composed of pustules or pustular bullae in various stages of development, resulting from successive auto-inoculations or infections.

DISCUSSION

DR. POLLITZER: I am of the opinion that the diagnosis of impetigo contagiosa might seem justified. The objections to that diagnosis are: the great extent and the distribution of the lesions and their rapid development; and, above all, the relative firmness of the covering of each lesion. In impetigo, the lesions usually rupture rapidly, and we have the formation of crusts. That has not occurred in this case, and that alone, to my mind, makes the diagnosis a little doubtful. Another disease of a totally different type, which was originally named impetigo, is to be considered, namely, the impetigo herpetiformis of Hebra, a rare disease, hardly any one has seen more than one or two cases in a large experience. The distribution, the characteristic grouping—notably the grouping in the groin and in the inner thigh, where the lesions have persisted—and the extension by the formation of fresh blisters at the periphery of older ones suggest impetigo herpetiformis. I cannot imagine the ordinary type of impetigo with its thin-walled lesions in a region in which there is constant friction, persisting for more than a few hours; whereas the blisters in this case have persisted over many days. Somewhat against the diagnosis of impetigo herpetiformis is the fact that it is a grave disease. Almost all the early cases reported terminated fatally; this woman appears to be in good

health. On the other hand, she has had the condition for only a few weeks, and whether or not she will remain in good health for another month is yet to be determined.

Dr. Wise: I agree with Dr. Pollitzer, and I should like to call attention to the fact that some physicians asked whether the woman was pregnant. Impetigo herpetiformis sometimes occurs in nonpregnant women, and occasionally in men.

Dr. Lane: I am rather inclined to agree with the diagnosis of the presenter, that it is an impetigo. It resembles much the impetigo varicellosa described by Schamberg as occasionally following chickenpox. I have seen one or two such cases. I should expect a cure within a month with mild antiseptic baths and ointments.

Dr. Abramowitz: Dr. Thornley and I saw this patient at the Gouverneur Hospital just after she had recovered from an attack of pneumonia. She had the same type of eruption then, but it was not so profuse. Dr. Thornley thought it was impetigo, but I was more inclined to the possible diagnosis of beginning pemphigus. Under local applications of mercurochrome-220 soluble she seemed to improve, but she left the hospital before I could see her again. The eruption as seen tonight is of greater extent and is probably a bullous form of pyoderma secondary to a pulmonary infection.

Dr. Wolf: I suggest the diagnosis of pneumococcus pyoderma.

Dr. Levin: I agree with the diagnosis of impetigo. I think it is caused by *Staphylococcus albus.*

Dr. Walzer: Impetigo herpetiformis is an extremely rare and serious disease, and, while it has occurred in men in rare instances, it is practically limited to women, and nearly always occurs during pregnancy. This patient has not been pregnant for four and a half years. The lesions first appear as tiny pustules, and the larger lesions are developed by the advance of the border. They are superficial, flaccid, and do not leave scars. The lesions are not grouped any more in the groin than in any other part of the body—in fact, the patient's back from the shoulders down show most of the lesions. Another important indication that the condition is not impetigo herpetiformis is the complete absence of constitutional symptoms. Except for the discomfort of the external lesions, she feels well. I believe this to be a superficial skin infection that has followed pneumonia.

A Case for Diagnosis—Lichen Planus-Like Lesions on a Hard Palate. Presented by Dr. Chargin.

This patient was previously shown at the November, 1926 meeting of the Brooklyn Dermatological Society.

DISCUSSION

Dr. Pollitzer: The verrucous lesion on the palate is congenital and is not extremely rare. It is the obverse of the cleft palate. There is a little redundancy where the bones come together, and that part has remained as a tuberosity. As to the grayish-white plaque that covers the roof of the mouth, I am much in doubt, and I rather incline to the opinion that it is a leukoplakia in an unusual location.

Dr. Lane: I feel as Dr. Pollitzer does about the case. I might give the name of the bony protuberance, which Dr. Pollitzer omitted. It is torus palatinus and is rarely referred to in textbooks, though it is fairly common. I have had

a number of such cases referred to me with the probable diagnosis of sarcoma. They are congenital, but are frequently not discovered until an effort is made to obtain false teeth.

DR. CANNON: This is a common condition, occurring in about 25 per cent of all persons, and is described in most textbooks. I first observed this several years ago, and made a histologic study of a lesion which showed that the small papular-like elevations were really minute cysts of the mucous follicles. It is a recurring condition, often the result of irritation, and the puckering of the mucous membrane is, I think, secondary to the edema. As for the hard nodule in the median line of the hard palate, I think with Dr. Lane that this is nothing more than a congenital malformation, and is a condition not infrequently mistaken for sarcoma.

DR. WISE: I have a distinct recollection of having seen a reproduction or a moulage of the condition presented by this patient, though I do not remember the book or the name; but I think it is a congenital defect, classed in the nevoid group of diseases, like a scrotal tongue. I think the man has had the lesions all his life and simply has not noticed them before. It is a true nevoid lesion and not an inflammatory disease.

DR. CHARGIN: I cannot agree with the diagnosis of leukoplakia. The patient is a heavy smoker, but the usual sites of leukoplakia are unaffected. A further point against leukoplakia is that he did not give a history of syphilis, and the reaction to the Wassermann test has proved negative on several occasions. The lesions are not vesicular, and when punctured they do not discharge mucus—they bleed. The lesions are distinct papules, round, flat on the surface, whitish at the periphery and red in the center. The biopsy will be reported later.

A CASE FOR DIAGNOSIS. MYCOTIC GRANULOMA. Presented by DR. HOPKINS.

J. J., a Russian, aged 42, had had the condition presented on the dorsum of his right hand for five months. It began as a small red macule and spread until it covered almost the entire dorsum of the hand. The lesion was covered with a thick crust, and had a pungent odor. Below the left ear the patient had a dime-sized, red, infiltrated lesion covered with a yellow crust. He said that he had had a penile lesion twelve years previously which was treated locally.

The results of a Wassermann test and a biopsy had not yet been reported.

DISCUSSION

DR. ABRAMOWITZ: I think that the lesion is a serpiginous ulcerative syphilid. The patient gives a history of a chancre and he has also had a lesion on the lobe of the left ear and some scars on the left side of the neck. For these reasons I think he should receive antispecific treatment and that syphilis be excluded only after the lesions fail to heal.

DR. CANNON: I doubt that the ulcer is syphilitic, even though the man may have a positive Wassermann reaction. The localization of the lesion for six months, its verrucous, elevated, crusted appearance with its numerous small sinuses discharging pus, make me believe that we are dealing with blastomycosis or possibly tuberculosis verrucosis cutis. The lesion is the productive rather than the destructive type one usually sees in syphilis.

DR. WISE: It is not only difficult, but it is futile to discuss the case with our present knowledge of the nature of the lesion. It will have to be studied for

a much longer time, bacteriologically and otherwise. I agree with what Dr. Cannon expressed, and with some hesitation offer the diagnosis of tinea profunda. It is just as difficult to find the organism in a long-standing tinea profunda as in some cases of blastomycosis.

DR. PAROUNAGIAN: Under the circumstances, if the Wassermann reaction is reported four plus we shall have to accept it as a case of tertiary syphilis. Of course, if the Wassermann reaction is negative, we shall have to search further, but the serpiginous appearance and the history of chancre twelve years ago should make us think seriously of that diagnosis.

TUBERCULOSIS ULCEROSA CUTIS. Presented by DR. CANNON.

O. T., a Polish woman, aged 28, from the Vanderbilt Clinic, presented two ulcerations in the region of the vulva and perineum. The lesions were triangular with a granulating base, covered with purulent membranes and had an irregular and partly undermined border, slightly infiltrated, with jagged edges. The inguinal glands on both sides were enlarged and indolent. In May, 1926, the patient first noticed pain and burning on defecation and then observed a small sore in the anal region. A month later the condition had spread to the vulva, and since then it had continued to spread. The patient was married; she had had no children and no miscarriages. There was no history of tuberculosis in the family, and there was no history of trauma. The Wassermann reaction on Nov. 12, 1926, was negative, as were also examinations for the DuCrey bacillus and for the *Bacillus crassus*. The dark-field examination was also negative. The histology was that of tuberculosis.

LUPUS ERYTHEMATOSUS TREATED WITH GOLD (Three cases). Presented by DR. HOPKINS.

The three cases, all of the discoid type, were presented to demonstrate substantial improvement following intravenous injection of 4 amino-2 auro-thiophenol carbonic acid. The number of injections ranged from six to eighteen.

DISCUSSION

DR. CHARGIN: A recent experience with the gold treatment is perhaps worth recording. I had under observation for several years a patient suffering from lupus erythematosus. The lesions first appeared some eight years ago on the eyelids, upper cheek, and scalp. The process remained stationary until some five or six months ago, when she became pregnant. Since then the eruption has spread to the cheeks, upper chest and upper back, and to the hands. New ones appeared also on the scalp. Prior to pregnancy and since, she has been treated by a variety of methods, including vaccine, foreign proteins, and local applications, all without any evident improvement. About six weeks ago she was placed under treatment with a gold preparation, receiving half a normal dose at the first injection and two additional full doses a week apart. There was a focal reaction following each injection, which appeared in the form of some swelling and erythema at the margin of the eruption, especially around the eyes, accompanied by local itching. Five days after the last injection, she developed a generalized erythematobullous eruption covering the entire body. This was accompanied by a temperature of 103.5 F. For a period of about two weeks the process remained active, the temperature fluctuating between 101 and 103.5 F. with a corresponding increase in the pulse. The mouth was dry, and the tongue was red. The urine showed a heavy trace of albumin.

Gradually the process subsided, with scaling, and leaving pigmentation over the entire body. During the height of the attack the patient was asthenic. There was marked generalized itching. With the subsidence of the eruption, the patient felt perfectly well. The interesting feature is that the lupus erythematosus eruption has entirely disappeared, leaving the skin somewhat pigmented, especially at the borders of the former lesions, but otherwise perfectly smooth. The areas of old atrophy have, of course, remained.

DR. ABRAMOWITZ: I think the gold treatment of lupus should be further discussed. I had a patient, a little girl, aged 12, weighing 97 pounds (44 Kg.), with an extensive lupus vulgaris of the face, who took as much as 200 mg. of gold thiosulphate twice a week. She did not have any general reaction that could be attributed to the treatment. I am now treating a patient with lupus erythematosus of the scalp, and she has received as much as 200 mg. twice a week, also without a reaction except at the site of the lesions on the scalp. The gold chloride given simultaneously by mouth seems to upset a patient more than the injections.

DR. HOPKINS: The evidence seems to show that most of these gold preparations cause a reaction in the lesions of lupus erythematosus. As far as I know, most of the experimental work in the treatment of tuberculosis with gold has been rather discoraging. It seems, however, that in these indolent forms of skin tuberculosis—if one admits that lupus erythematosus is such—one can produce a focal reaction somewhat like that caused by tuberculin, and may hope in this way to produce a curative effect.

MELANOCARCINOMA. Presented by DR. ANDREWS.

A. S., a woman, aged 61, from the Memorial Hospital, for six months had suffered from the condition presented. She said she had not had any lesion before. She was first seen at the hospital a week before, with an oval, exuberant ulceration on the outer aspect of the left heel, and rather large hard glands in the left groin. A biopsy showed melanocarcinoma.

DISCUSSION

DR. POLLITZER: There is a lesson to be learned from this case which I have several times tried to impress on this audience—that every melanoma or pigmented mole on the foot should be removed as soon as it is discovered. People never consult a physician about a little dark spot on the foot, but it is dangerous. A pigmented mole may remain unchanged as long as the patient lives, but if subjected to irritation it is likely to develop into a carcinoma of the most malignant type. A mole on the foot is always subject to irritation. In the course of many years, I have seen a considerable number of cases of melanocarcinoma starting from pigmented moles on the foot. I believe that the family physician should make it his business to look for such moles in the children of his patients and impress the fact on the parents that a pigmented mole on the foot is a potential cancer and should be removed at once. When it shows any evidence of growth or change, it is too late; the patient will already have metastatic deposits in the glands.

MULTIPLE BENIGN CYSTIC EPITHELIOMA: TWO CASES. Presented by DR. WALZER for DR. LAPOWSKI.

S. S., a married woman, had nothing in her past history of any importance. Fourteen years prior to presentation, the patient had first noticed lesions on the

right upper lip, which had gradually increased in size and number. In the the center of the face were numerous scattered and grouped pinhead to pea-sized, whitish, glistening, translucent papules. Some of them had a depressed or follicular center. They were symmetrical, and fluid could not be obtained on puncture.

A. S., unmarried, a dress operator, sister of patient S. S., aged 20, had never been sick. The condition presented first appeared six months previously, and the lesions had been gradually increasing in number. She did not show subjective symptoms. At the labionasal folds, on the upper lip, on the nose and near the inner canthus of each eye were about two dozen whitish, elevated, pinhead to small pea-sized, glistening, firm papules. Those around the nasal fold were conglomerated; others were discrete. The distribution was symmetrical, and fluid could not be obtained on puncture.

DISCUSSION

DR. WISE: I think the condition is adenoma sebaceum.

DR. WALZER: The only condition to be differentiated is adenoma sebaceum. The appearance late in life — in the older sister fourteen years ago and in the younger sister only six months ago — would speak against the diagnosis of adenoma sebaceum, a disease which usually appears in childhood. The scantiness of the telangiectasia, and the absence of mental symptoms would be in favor of benign cystic epithelioma.

DR. CANNON: I think with Dr. Wise that the condition is adenoma sebaceum. The mere fact that the lesions developed in adult life and the absence of any mental defect does not necessarily disprove the diagnosis.

DR. LEVIN: I agree with the diagnosis as presented. A piece of tissue should be removed and examined, and that will settle the diagnosis.

DR. ABRAMOWITZ: I think the patients should be presented again with a report of the microscopic examination of one of the excised lesions on the face. The clinical picture is that of adenoma sebaceum, and such a diagnosis was made about two months ago on another patient, from the Israel-Zion Hospital, who presented similar lesions on the face; but a biopsy revealed a basal cell epithelioma.

DR. LANE: I think the diagnosis is adenoma sebaceum. The redness just referred to is typical of only one type of this disease, Pringle's type. In the Hallopeau-Leredde type and in the Balzer type, redness is not characteristic. In this case, the color of the tumors is that of the normal skin surrounding them. This appears to me to be a typical case of the Balzer type of the disease.

DR. CHARGIN: I agree with the diagnosis of adenoma sebaceum of the Balzer or Hallopeau type.

PARAPSORIASIS (Two cases). Presented by DR. WALZER for DR. LAPOWSKI.

R. M., a schoolgirl, aged 6½ years, had never been ill, except for the ordinary diseases of childhood. The condition for which she was presented dated back about six weeks. The lesions began on the neck and spread over the entire body. There were hardly any subjective symptoms. The entire body, extremities, neck and face were covered with a diffuse but not conglomerated papular eruption, pinhead to pea-sized, reddish—each papule being sharply outlined and elevated. Some of them looked almost like lichen planus; others

were covered with silvery scales, but did not give a punctate hemorrhage on scratching. The mucous membranes, palms and soles were free from the eruption.

I. W., a schoolboy, aged 7, had had the usual diseases of childhood. The trouble for which he was presented dated back about three and one half years. The entire body, neck, face and extremities were involved. The palms and soles were free; the nails were not affected. The primary lesion was a tiny papule, the size of a pinhead or a trifle larger, faint red, not sharply outlined, and surmounted by whitish, silvery scales. These papules were single and grouped, forming semiannular and irregular patches of various shapes and sizes. On scratching, the scales came off, whitish, thin, and silvery, but did not show punctate hemorrhages.

DISCUSSION

DR. FELDMAN: I saw the little girl about two and one half months ago at Lebanon Hospital Clinic, with a typical case of psoriasis guttata—all typical lesions. I think it is a simple case of psoriasis guttata for which the patient has been treated, and the lesions have more or less cleared up.

DR. POLLITZER: I cannot convince myself that the first case is one of parapsoriasis. On the other hand, the lesions might correspond to guttate psoriasis, and I would recommend that the presenter reconsider his case from the point of view of a diagnosis of psoriasis. The second case corresponds with parapsoriasis of the lichenoid type. My opinion is that one of the cases is parapsoriasis; I do not think the other is parapsoriasis, but is probably a case of psoriasis.

DR. WALZER: The lesions on the lower part of the body in the first case, especially on the buttocks, resemble lichen planus, and if they were the only lesions present I do not think any one would hesitate as to the diagnosis of lichen planus. The lesions on the upper part of the body resemble psoriasis. A silvery white scale can be scratched off but with more force than is usual in psoriasis, and the bleeding that follows is not punctate but of a more profuse type. Therefore, with these two different sets of lesions, I think the diagnosis of parapsoriasis is the correct one.

GANGLION. Presented by DR. SHARLIT. (From the Vanderbilt Clinic.)

I. S., a Russian woman, aged 54, had had a small growth on the left foot for the past eight years. It had grown rapidly during the past year. Roentgenograms showed that there was no connection with the bone. The lesion was the size of a pigeon's egg, situated on the dorsum of the left foot under the normal skin, and was of firm consistency. The Wassermann reaction was negative.

DISCUSSION

DR. WOLF: I believe it is not a ganglion, but an exostosis or a fibrosarcoma.

DR. MCCAFFERTY: I saw the roentgenogram, and there is a slight elevation of the periosteum. The tumor is relatively firm and hard. The only way to determine exactly what it is, is to excise it.

DR. GILMOUR: It is not a solid tumor. I felt fluctuation, and if you make the tendons tense it will not move sideways. I think that any one with surgical experience would decide as I do that it is a ganglion.

DR. CANNON: I agree with the diagnosis of ganglion. While the upper edge of the tumor is hard, the other part is soft and fluctuating. I think the roentgenogram rules out the possible diagnosis of sarcoma.

Leprosy. Presented by Dr. Hopkins.

E. W., a colored woman, aged 28, born in the British West Indies, had been under treatment with chaulmoogra oil since April, 1926. Several erythematous, elevated, wheallike lesions were around the mouth, eyes and nose, and on both palms. There were anesthetic and deeply pigmented patches on the body; hyperesthetic areas on the left thigh and on the right shoulder; and thickening and tenderness of both ulnar nerves, with hyperesthesia of the hands.

Herpes Zoster Gangrenosa in a Patient with Hodgkin's Disease. Presented by Dr. Andrews.

The patient was a man, aged 29 (from the Memorial Hospital), who had been treated for Hodgkin's disease with the roentgen ray and arsenic, and had suffered with severe zoster on the left supra-orbital region, which had disappeared, leaving marked scarring. Neuralgic pains persisted.

Urticaria Pigmentosa. Presented by Dr. Chargin.

S. M., an only child, aged 18 months, presented a condition which began a year previously. The original eruption was like a "mosquito bite" and was followed by a gradual increase of lesions over the trunk. As presented, the eruption consisted of split-pea-sized, pigmented macules. Urticarial lesions could be produced.

Parapsoriasis (Brocq). Two Cases. Presented by Dr. Gross. From the Vanderbilt Clinic.

H. W., a Russian cigaret-maker, had been in the United States three and one-half years. For three years he had suffered from an eruption which started on the legs and gradually spread to the thighs, abdomen, chest and back. There was slight itching. The eruption did not improve spontaneously. Arsenotherapy was not beneficial. The roentgen ray had caused involution of a few patches, but most of them were unaffected. Topical remedies had failed. The entire body, from the clavicles down, was covered with patches, some being larger than the palm, pale red, without any infiltration, and here and there mixed with pigmentation. The epidermis showed either exfoliation of rhombic lamellae or a wrinkled appearance with accentuation of the normal lines of the skin. Superimposed on these lesions were several dollar-sized patches of more inflammatory color and scaliness. The skin was dry, with superficial fissuring in some regions, especially on the extremities.

G. T., a Hungarian, aged 25, said that he had had an eruption for five years. It had started on the upper thighs and gradually involved the abdomen, chest, buttocks and back. There was no itching. He had been treated with the roentgen ray, ultraviolet light, pilocarpine and salves in several institutions, but none of these treatments ever influenced the condition.

The entire trunk and the lower extremities were covered with lesions varying from the size of a coin to that of the palm, dark red and slightly violaceous; they were not infiltrated; there was a moderate amount of scaling. Other lesions were of a brighter red, and looked as if they developed in the older patches. The epidermis seemed wrinkled. In the lesions on the lower part of the abdomen and inguinal regions, true atrophy of a slight degree with telangiectasia seemed to be present. The outline of the lesions was irregular, but unusually sharp.

PARAPSORIASIS GUTTATA. Presented by DR. GROSS. From the Vanderbilt Clinic.

S. R., a Russian woman, aged 40, had developed an eruption on the forearms seven years previously, which had gradually spread to the trunk and lower extremities. Although the lesions appeared to be paler in the summer, the eruption never disappeared entirely. When first seen, a year prior to presentation, the patient was treated with the ultraviolet light, after which the eruption cleared up, only to reappear again in a few months. The patient was married and had three children. She had typhus fever during the war. She did not have a significant family history. The Wassermann reaction was negative.

On the flexor surface of the arms, on the forearms, and on the sides of the trunk and thighs were scattered lesions smaller than a lentil, slightly infiltrated, brownish red, and showing occasional fine scales. In the axillary folds there was an increased density of lesions which showed more marked inflammation. Pinhead-sized papules could be seen, especially on the arms, of a very pale pinkish color.

BAZIN'S DISEASE. PAPULONECROTIC TUBERCULIDES AND LIVEDO RACEMOSA. Presented by DR. HOPKINS.

A. R., an American woman, aged 26, had an eruption on her legs which started about two years prior to presentation, and which was treated for about a year and a half with ultraviolet light at the Vanderbilt Clinic. There was marked improvement all through the summer, but recently the condition got worse. For several weeks the patient had had an eruption on the hands which was rather painful. She did not give a significant personal or family history.

The patient was a well developed, rather stout brunette, presenting a red reticulation of the legs with a few bluish nodules on the lower part of the legs. The bluish-red discolorations suggested slight inflammatory changes besides venous dilatation. On several fingers of both hands there were lesions the size of a small pea. On the kunckles were bluish-red lesions with necrotic centers.

SYMMETRICAL LIPOMATOSIS. Presented by DR. CANNON. From the Vanderbilt Clinic.

G. P., a Hungarian, aged 29, about nine years previously had noticed a gradual development of from ten to twelve tumors which reached a certain size but did not develop further and did not disappear. In the nine years eighty tumors had developed. The patient was married, but had no children; his wife had had no miscarriages. His mother was living and in good health. His father died of acute indigestion, and also had tumors on the abdomen similar to those of the patient. The patient had one sister who died a few days after birth. His libido was normal. His Wassermann reaction on Nov. 24, 1926, was negative.

The blood chemistry gave the following abnormal observations: cholesterol of blood, 224; of plasma, 218; lipoid lecithin, whole blood, 340; plasma, 225; serum albumin, 6.2. Roentgenogram of the skull showed that the sella was oval with clear-cut walls, slightly smaller than usual in proportion. There was calcification behind the sella which had not been located by roentgenograms.

In symmetrical distribution on the trunk and extremities were egg-sized, freely movable lobulated tumors beneath the normal skin. The deltoid region and the legs were free from them; the pubic hair was of masculine character.

EPULIS. Presented by DR. ANDREWS. From the Vanderbilt Clinic.

C. B., a white girl, aged 14, developed a tumor on the upper gum one year previously. On the gum over the left upper incisor was a tumor about the size of a large pea, red and of hard consistency.

Von Recklinghausen's Disease. Presented by Dr. Andrews. From the Vanderbilt Clinic.

C. S., a Spanish woman, aged 34, had suffered from an eruption for one and a half years. Scattered over the chest were numerous lesions, about the size of a pinhead, rather uniform, practically skin-colored. The lesions formed discrete elevated papules. On the right side of the chest was a café-au-lait-colored spot about the size of a palm. On the left arm was a small soft tumor, the color of the skin. On the back were lesions and pigmentations from acne. The Wassermann reaction was negative.

Perifolliculitis Abscedens et Suffodiens. Presented by Dr. McCafferty. From the Vanderbilt Clinic.

J. M., a white man, an American, aged 23, presented a condition of the scalp which had started in the occipital region three years previously, and had gradually extended over the entire scalp. He had suffered from epilepsy since 1913, and took bromides until about 1916, when he developed a bromide acne of the face and discontinued the bromides. One brother and sister (twins) died a few hours after birth; one sister had disease of the hip; one brother and his parents were living and in good health. The patient had shown only slight improvement from surgical treatment. He had also had treatment with ultraviolet rays and vaccines, and with fractional doses of the roentgen ray.

The Wassermann reaction was negative. Blood-agar culture remained sterile.

There were numerous cystic abscesses varying in size from that of a pea to that of a walnut, the skin showing bluish-red discoloration. There was loss of hair, and there were spontaneous artificial openings, which healed with scrofuloderma-like scars. There were numerous comedones, many of which were deep-seated in scar tissue. The entire scalp presented a cerebriform appearance.

Prurigo Nodularis. Presented by Dr. Walzer for Dr. Lapowski.

A. G., a woman, aged 37, married, had four healthy children, and had never been sick until she had the present condition. She said that thirteen years previously the condition started with terrific itching on the posterior portion of both legs. The eruption then appeared on the upper extremities to the shoulders, and on the lower extremities to the hips and was marked on the extensor surfaces. The face, trunk, mucous membranes, palms and soles were free. The lesions consisted of scattered pinkish papules or nodules varying in size from that of a pea to that of a cherry, elevated, rounded, firm and hard. Many of them were covered with adherent scales; some showed excoriated surfaces and bleeding crusts; some appeared warty. The lesions were discrete. Intermingled with these lesions were numerous, scattered, pea-sized or larger, whitish superficial scars, probably the remains of past lesions. The skin on the upper and lower extremities was somewhat pigmented. Dermographism was pronounced.

Thrombo-Angiitis Obliterans. Presented by Dr. Walzer for Dr. Lapowski.

D. L., a weaver, born in Poland, aged 39, unmarried, had nothing in his past or family history of any importance. He was a moderate smoker. His present condition began about three years prior to presentation, the first symptom being difficulty in walking. He did not give an history of trauma or

freezing of the feet. He had pains in the calves of both legs and in the soles of the feet after walking. Three years before presentation pains in the toes also developed; and later ulceration developed on the second toe of the right foot which refused to heal, and the toe was amputated in Poland. He also received thirty intramuscular injections of mercury without benefit.

As presented, with the left foot in a pendant position, there was an intense red flush involving the toes and foot to the ankle. When the limb was suddenly elevated, blanching set in almost immediately, and the entire foot became almost ashy white. There was an absence of pulsation in the posterior tibial and dorsal pedis arteries. The second toe was missing. The large toe and the fourth toe showed evidence of beginning ulceration and gangrene. The foot was cold. The right foot was not so badly affected. The Wassermann reaction was negative. The rest of the body was normal.

CHICAGO DERMATOLOGICAL SOCIETY

Regular Meeting, Dec. 15, 1926

PAUL A. O'LEARY, M.D., *Presiding*

SARCOID. Presented by DR. FINK for DR. ORMSBY.

A Mexican, aged 26, presented a lesion of five months' duration on the left side of the forehead. It began as a "pimple" and increased in size. No subjective symptoms had been present.

On presentation the lesion occupied the region above the left eye, involving an egg-sized area on the brow and adjacent parts. The major patch was moderately elevated, reddish brown and firm to the touch. Two smaller nodular areas were present close to the large patch. The family and past personal history were negative as to tuberculosis. The Wassermann reaction was negative.

Histologic sections showed lobules of epithelioid cells separated from each other by connective tissue septums. A few giant cells were present. The entire corium was involved in the process.

DISCUSSION

DR. MITCHELL: I think this is an unusual case of sarcoid, which is particularly instructive because of the good microscopic sections which were shown with it.

A CASE FOR DIAGNOSIS. MULTIPLE PIGMENTED NEVI? Presented by DR. SENEAR and DR. WIEN.

A colored woman, aged 70, had an eruption on the face which had been present for many years. The lesions were blackish macules and slightly raised papules with slight scaling. There were no subjective symptoms.

DISCUSSION

DR. ORMSBY: The skin of the face showed a number of small papules which were highly pigmented because of the woman's race. In addition, there were some nevi, so I feel that the condition could be adenoma sebaceum.

Dr. Finnerud: I was unable to fit this picture in with anything, but considered adenoma sebaceum a possibility.

Dr. Harry R. Foerster: The lesions also showed hyperkeratosis, and this made me think that they were nevi.

Dr. Senear: We had considered adenoma sebaceum, multiple benign cystic epithelioma and multiple pigmented nevi as the possibilities in diagnosis. Because many of the lesions seem to be simply pigmented macules, while others had the hyperkeratotic tops mentioned by Dr. Foerster we regard the last diagnosis as the proper one. An attempt will be made to secure material for microscopic study, and this will be reported on later.

Keratosis Palmaris et Plantaris. Presented by Dr. Oliver.

The patient was a woman, aged 32, whose palms were the seat of a uniform hyperkeratosis. The palms were stiff. She had had two previous attacks, one sixteen and one five years before presentation. She had received twelve intravenous injections of arsphenamine two and one-half years before. The Wassermann reaction was negative. The present attack came on suddenly three weeks before presentation, and the palms were slightly more involved than were the soles.

DISCUSSION

Dr. Oliver: The patient was told two and a half years ago that she had syphilis, and was given arsphenamine, but she had had two attacks of the eruption before this treatment was used. The man whom I showed two months ago with palmar hyperkeratosis which was regarded as syphilitic, has been improving rapidly under treatment.

Dr. Ormsby: I have seen several cases like this during the last few years, and the eruption has cleared up in from six to eight weeks in most instances. Those patients always had a preliminary inflammatory reaction of the palms followed by thickening and exfoliation. I regarded them as scarlatiniform erythema, and think this case may be of the same variety.

A Case for Diagnosis. Presented by Dr. Ormsby.

A Polish man, aged 30, a machinist's helper, said that five years previously there had appeared on his trunk at the level of the umbilicus, a band from 6 to 8 inches (15 to 20 cm.) wide of dark, rough and thickened skin, the borders of which were well defined. The skin had previously been normal. The condition remained localized for one and one-half years. The patient then started taking medicine internally, the composition of which was unknown to him. Five weeks later, while still taking the medicine, he took a prolonged Turkish bath, including three hours' steaming and considerable rough treatment to the skin. On leaving the bath the whole skin was red and swollen. Somewhat later it became rough and exfoliated. He dated the present generalized eruption from this incident. He took medicine for five months longer.

On examination it was seen that the eruption was generalized, being most marked on the abdomen, thighs, palms and soles. The affected skin was erythematous and generally hyperkeratotic, the thickened portions forming a fine reticulum, in the interspaces of which there were countless telangiectasia or thinned areas of rete with papillary blood vessels showing through. The palms and soles were thickened, the former to a marked degree. On the palms there were numerous split-pea-sized, localized keratoses. The mouth was normal.

Histologic sections showed hyperkeratotic and vascular changes. A more detailed study will be reported.

DISCUSSION

Dr. Finnerud: I have never seen any condition which presented this picture, either clinically or histologically. My first thought was the possibility of its being due to arsenic, and there was a history of the patient's taking medicine, at least before the appearance of the universal eruption. The tissue is to be examined for arsenic. The slides present some of the characteristics of ichthyosis.

Dr. Orland F. Montgomery: The histologic section is suggestive of arsenical dermatitis for several reasons: first, the coil gland epithelium shows degenerative changes both in the duct and acini; second, there is marked intercellular and extracellular deposit of pigment in the upper corium; third, there are numerous spaces in the several layers of the skin which look like artifacts, but were pointed out by Osborne to be characteristic of arsenical dermatitis. The history of long continued ingestion of medicine in association with the present clinical picture is also suggestive.

Dr. Ormsby: I believe that the patient had an abnormally dry skin and possibly ichthyosis in the beginning, and treatment, probably with arsenic, may have been a secondary factor in the production of the present picture.

Dr. Pusey: Are telangiectases present in arsenical hyperkeratoses?

Dr. Ormsby: I saw many cases of dermatitis due to arsenic during the epidemic in England, and there were no telangiectases in those. This man had much of his trouble preceding the use of the medicine, so that factor could not account for all of it.

Severe Chronic Dermatitis. Presented by Dr. Mitchell.

A woman, aged 66, was first seen in September, 1926, with a severe, chronic itching dermatosis which had been present on the arms, face and neck for one year. The onset had been sudden and was thought by the patient to have been due to contact with some plant while she was working in the garden. Intense itching had prevailed in spite of all treatment.

When the patient was first seen the skin of the arms, face and neck was markedly lichenified, and on the trunk there was an extensive and pronounced follicular keratosis suggesting pityriasis rubra pilaris. With the exception of a slight puffiness in the supraclavicular fossae, sometimes seen in hypothyroidism, the result of general examination, both physical and clinical was negative. The patient was exhibited for the purpose of obtaining therapeutic suggestions.

DISCUSSION

Dr. Mitchell: When this patient was first seen the itching was intense. It had been suggested that the dermatosis might be due to a hyperthyroidism, but the basal metabolism rate was + 1. The pulse is slow. The patient is now receiving thyroid substance. She was given arsenic at one time, but the condition became much worse, and arsenic was discontinued. Roentgenotherapy has been of the most value thus far.

A Case of Elephantiasis of the Penis and Scrotum. Presented by Dr. Oliver and Dr. Finnerud.

A negro, aged 26, had a marked enlargement of the penis and scrotum to several times their normal size. The skin was thick and infiltrated and the prepuce greatly thickened, so that retraction was impossible.

The enlargement had begun one year before presentation after an attack of chills and fever. He had had two previous attacks of swelling of these organs, one in 1921 and another in 1923. After these attacks the tissues had resumed their previous size. He had lived in Chicago for eight years, was born in Kansas and had lived in the south until 1918. His Wassermann reaction was negative. The differential white count showed 28 per cent polymorphonuclears and 5 per cent eosinophils.

DISCUSSION

DR. FINNERUD: Bacteriologic investigations in this case have not been made as yet, but we hope to present the patient with a more detailed history at the January meeting.

DR. MONTGOMERY: I recall a case seen several years ago, similar to the present one, with lymphatic obstruction supposed to be due to repeated gonococcic infections. This patient says he now has an old case of gonorrhea.

DR. OLIVER: I think this case is exactly like the one reported by Marshall as due to syphilis.

PITYRIASIS ROSEA. (?) Presented by DR. HEDGE.

The patient was a white boy, aged 19, whose case had been diagnosed as secondary syphilis. He had received five injections of neoarsphenamine. His Wassermann reaction had been negative at three examinations, and his clinical history was negative for syphilis. He said that the eruption began on the forearms about seven weeks before presentation. He was somewhat confused as to the exact time of the first appearance, as he said that he thought some of the eruption had been present at another time about four months before presentation. The lesions were macular, deep red to purple, slightly scaling and of general distribution with the exception of the face, hands and feet. The lesions had a tendency to follow the lines of cleavage and also to be somewhat elliptical in outline. They had cleared up considerably during the week before presentation, but were still present as a peculiar macular eruption somewhat resembling an atypical parapsoriasis.

DISCUSSION

DR. ZEISLER: When we first saw this patient the condition looked like secondary syphilis. He had an adenopathy and pharyngitis in addition to the eruption. In spite of negative serum tests he was treated with neoarsphenamine but did not improve, and more lesions appeared. At the time that the patient left the hospital the condition looked like pityriasis rosea, but at present its appearance is that of pityriasis lichenoides chronica.

DR. MCEWEN: I regard the condition as parapsoriasis.

DR. STILLIANS: I agree with this diagnosis.

TUBERCULOSIS. Presented by DR. SENEAR and DR. WIEN.

A laborer, a Spaniard, aged 25, eleven months before presentation had run a rusty nail into his left elbow. The next day the site of the injury became swollen and painful. About two weeks later an incision was made, and thick, yellow pus escaped. The drainage continued for one week, and the lesion healed completely in two weeks. The patient then noted pain in both axillary

regions and some small lumps in the axillae. Two weeks later these lumps broke down and discharged a thin pus. The discharge had continued since that time, some lesions healing and new ones forming. In June, 1926, he noted a lump at the angle of the left jaw. This was opened in July, and discharged thin, yellow pus containing some lumps. This discharge continued until November, since which time the material had exuded only on removal of the crust.

On Dec. 4, 1926, a guinea-pig was inoculated. On December 11 the Pirquet test was performed. There was erythema in two hours, and the test was strongly positive in twenty-four hours. The Wassermann reaction was negative. A roentgenogram of the chest showed the average amount of hilum shadows, with no parenchymal infiltration.

NOTE: Guinea-pig inoculation proved positive later, and the microscopic picture of a section taken from one of the lesions was typical of tuberculosis.

LEPROSY (MACULO-ANESTHETIC). Presented by DR. ZEISLER.

A Lithuanian rabbi, aged 67, had an eruption of the trunk and extremities of two years' duration. He had been in America four years.

Examination showed numerous, round and oval, light brown macules, some slightly infiltrated, averaging the size of a dime, of the trunk and extremities. Repeated smears from the nasal mucosa showed acid-fast and alcohol-fast bacilli, apparently lepra bacilli. During the past nine weeks the patient had received fifteen injections of chaulmoogra oil, without noteworthy improvement.

PSORIASIS (UNCOMMON TYPE). Presented by DR. ORMSBY.

A man, aged 46, had had a disorder for three years. The early lesions occurred on the extensor surfaces of the elbows and knees, and new lesions had since developed on other areas. None had disappeared.

On presentation the lesions were found on the arms, forearms and hands, the trunk, both front and back, the thighs and legs to a lesser extent. On the arms and forearms the disorder occurred diffusely; the skin was bluish-red and apparently thin when the scales were removed. On the trunk the scaling was profuse, the scales being large and lamellated, but they were on a bluish-red base with little infiltration in the skin. The palms were diffusely covered with polycyclic scaling lesions.

For three years the patient had been treated by various physicians without any effect on the disorder.

DISCUSSION

DR. ORMSBY: There is something peculiar about the picture in this case of psoriasis. There is little infiltration in the lesions. Its steady progress and failure to respond to treatment make the outlook dubious.

DR. ZEISLER: My father used to say that palmar involvement occurred in psoriasis in only one out of a thousand cases. I have noticed that psoriatic lesions on the backs of the hands are resistant to therapy.

A CASE OF MULTIFORM ERYTHEMA WITH PSORIASIS-LIKE LESIONS. Presented by DR. OLIVER and DR. FINNERUD.

A white man, aged 75, had bluish-red, edematous papules, some of which were herpetic in type on the extensor surfaces of the forearms, on the backs of the hands and fingers and on the palmar aspect of the fingertips. The

lesions varied in size from that of a split pea to that of a hickory nut. There was a cyanotic blue tinge to the fingers, forearms and face. On the back, about the neck, in front and behind, but grouped especially over the scapulae were larger dark red papules, at first capped with gray scales, now clearing in the center. Over the nose and cheeks the lesions had practically disappeared, but there was a deep cyanotic tinge to the skin. There was some itching. The patient said that the condition had existed for three months, but his statements were unreliable.

DISCUSSION

DR. STILLIANS: This case reminds me of that of a patient presented from the Cook County Hospital several years ago. That patient died a few weeks after presentation of septicemia.

DR. MCEWEN: I think if the teeth and tonsils are cared for in this case the condition will clear up.

DR. ZEISLER: Cases of this type with purpura-like lesions are likely to be severe, and the prognosis is unfavorable.

MULTIPLE FLAT NEVI. Presented by DR. FINK for DR. ORMSBY.

The patient was a man, aged 34, who had had the lesions since birth, but they had become more numerous in recent years.

On presentation the lesions were found on the trunk, more numerous anteriorly, and were oval and round, varying in size from that of a pinhead to that of a dime, slightly elevated, soft, reddish, reddish-brown and brown. Some presented an elevated, soft, velvety, verrucous-like center.

Histologic sections showed the characteristic structure of a nevus.

DISCUSSION

DR. MITCHELL: I think this is an extraordinary case, and I am glad that I have had an opportunity to see the patient.

BLASTOMYCOSIS. Presented by DR. SENEAR and DR. WIEN.

The patient was a man, aged 48, who had scratched his right hand between the index and middle fingers, on the dorsal surface, with a rusty wire eight months previous to presentation. A sore formed that gradually enlarged, spreading toward the wrist and healing in the original area of trauma. About five months later he had pain in the right axilla and at the same time a "pimple" appeared on the right forearm, which enlarged and then broke down in several places, discharging a thin, bloody fluid. A week later a second lesion appeared in an adjacent area.

At the time of presentation the dorsum of the right hand presented a violaceous patch with a thin, atrophic skin. The proximal edge of the patch was the site of a crusted, slightly elevated lesion with a convex border. On the ulnar border of the lower third of the forearm there was an area of ulceration with several discharging sinuses, that exuded a serosanguineous material, and to the left of this lesion was a purplish, atrophic area about the size of a silver quarter. Smears revealed blastomyces. A roentgenogram of the chest showed no pathologic condition. A biopsy showed a typical blastomycosis.

BROOKLYN DERMATOLOGICAL SOCIETY

Regular Meeting, Dec. 20, 1926

JOHN COOPER GRAHAM, M.D., *President*

URTICARIA PIGMENTOSA. Presented by DR. SKEER for DR. BERKOWITZ.

A. W., a man, white, aged 21, did not give any history of childhood diseases except measles at the age of 2. He said that he had not had any eruption, except numerous boils on the back five years before presentation. About nine months before presentation he first noticed lesions on the body, accompanied by a slight itching. At presentation he showed an eruption of discrete maculopapular, copper colored, pea-sized lesions, over the face, and especially on the trunk and arms. The left side of the lower lip, and the buccal mucosa, showed a well defined, white patch and a slight abrasion of the membrane. There was marked dermographism. The papules, when scratched or rubbed, became elevated, and showed a ring of erythema around them.

ACRODERMATITIS CHRONICA ATROPHICANS. Presented by DR. FRANK.

R. M., a white woman, aged 37, married, born in Russia, gave a negative family history. One year previous to the onset of this eruption, the patient had suffered from a nervous breakdown, and an attack of asthma. The present condition started two years prior to presentation on the left forearm, followed by lesions on the right forearm and then on the legs. The affected parts became bluish on exposure to cold. The skin was thin, shriveled and dried, with dilatation of the blood vessels. The Wassermann reaction and the urinalysis were negative.

HEMANGIOMA. Presented by DR. PERSKY.

M. O., a woman, aged 53, married, said that while consulting her dentist she was informed for the first time of a lump in her mouth, on the left buccal mucous membrane. It was a tumor-like mass about 1.5 cm. in diameter, and 1 cm. high. The base was round, and distinct from the normal mucous membrane. The rest of the mass was irregular in outline, bluish pink, soft and freely movable. It was in apposition with the second upper left molar, which had a gold cap on it. The case was presented for suggestions on treatment.

DISCUSSION

DR. ABRAMOWITZ: I think this is a granuloma pyogenicum. I would suggest the cautery or endotherm as a method of removal, but in all events, a biopsy should be performed. Michelson (ARCH. DERMAT. & SYPH. **12**:492 [Oct.] 1925) called attention to some false conceptions about these granuloma, and one of them is that pedunculation is not necessary in order to make the diagnosis.

DR. PRIMSKY: This case reminds me of a similar one which I saw two or three months ago. A man appeared with a lesion of this same character on the tip of his tongue, which he attributed to a fish bone which had penetrated the tongue. He did not have any pain, and the diagnosis of hemangioma, probably traumatic, was made. The lesion was left alone, and in two days it had disappeared. The woman presented here by Dr. Persky says that she

chews on the left side of her mouth. I would like to know whether there is any relation between her chewing on that side and the presence of the lesion.

Dr. Graham: I agree with the diagnosis, and would not use radium on it. The sloughing tissue in the mouth would be almost certain to become infected. I would advocate the use of the electrocautery.

Dr. Chargin: I agree with what the Chairman said regarding radium. I do not believe this a case of granuloma pyogenicum, but I believe desiccation is the best method of treatment for the condition.

Lupus Erythematosus of the Scalp Treated with Gold. Presented by Dr. Abramowitz.

Rose P., a woman, aged 40, married, the mother of two children, had been in perfect health otherwise until three years prior to presentation when an eruption appeared on her scalp. She was born in Hungary, and had lived in this country twenty-five years. When 8 years old she had had an abscess, probably tuberculous, under the chin, and showed an irregular scar caused from an operation, in this area. One of the toes of the left foot was deformed from an eruption that she also had had as a child. The eruption had been treated with the ultraviolet light as it was diagnosed as tinea, without improvement. When she presented herself two months prior to presentation she still showed bald, atrophic lesions with many fine scales, wide follicular orifices and some erythema. These patches were situated on the crown of her scalp, and were more or less connected, forming a crescent which almost occupied the top of the scalp. Several other similar but smaller lesions were present throughout other parts of the scalp but no folliculitis was seen. The face and the rest of the body were not involved. Examinations of the scales and hairs for tinea were negative on two different occasions. The Wassermann reaction was negative, and physical examination, including roentgen ray examination of the chest, was negative. One abscessed tooth was being treated by a dentist. Soon after the first visit the patient was put on intravenous injections of Schamberg's gold thiosulphate, and had received doses of this compound of from 75 to 200 mg., twice a week. This presentation was made after the twelfth injection. She also took 1/15 grain (0.004 Gm.) of gold chloride by mouth, usually three times a day. She never had anything but a mild focal reaction from the injections; the lesions on the scalp becoming somewhat red and slightly painful. She also complained of a brassy taste in her mouth. At various times the gold chloride taken by mouth had to be omitted on account of distress and general feeling of weakness. The lesions on the scalp showed marked improvement. There was no scaling nor erythema, and the patches were becoming somewhat pigmented. There was a slight gain in weight.

DISCUSSION

Dr. Throne: I think the result in this case is good, but the patient cannot be considered completely cured until all of the redness is gone. If this patient is not yet cured, a few more injections will cure her completely. The atrophy left in patients treated with gold preparations is so slight in many instances that it can hardly be noticed.

Dr. Abramowitz: The patient shows some erythema at the site of the lupus areas on the scalp. This redness appears after the injections and soon wears off. The gold chloride given by mouth in conjunction with the injections seems to disturb the patient more than the intravenous injections. As

soon as improvement is noted it is best to discontinue the gold chloride and prolong the interval between injections of the gold thiosulphate.

BASAL CELL EPITHELIOMA. Presented by DR. GRAHAM.

Mrs. B., aged 44, developed a lesion on the outer side of the lower part of the left leg about seven years previous to presentation. It had gradually spread until at presentation there was a ring about the size of a silver dollar, with complete atrophy in the center up to about one-eighth inch from the outer margin. At the periphery there was slight scaling but no ulceration. The skin was thickened throughout its depth. Biopsy had not been made. The Wassermann reaction was negative.

DISCUSSION

DR. ABRAMOWITZ: I think this case should be presented with a biopsy report. Without one, the diagnosis of a morphea-like epithelioma is as good as any.

IMPETIGO CONTAGIOSA. Presented by DR. GAUVAIN.

A. C., a man, married, aged 36, a telephone lineman, had had an eruption for nine weeks which began on the chest as flaccid bullae rupturing in a few hours and forming crusts. New lesions formed by autoinoculation over the entire chest, and on the back.

The routine treatment of ointment of ammoniated mercury, 5 per cent had been used but had not controlled the infection. It did, however, produce a marked dermatitis, particularly in the axillae, where new lesions were developing. The patient had received two roentgen-ray treatments, each of one quarter unit, at intervals of one week.

NOTE: Since presentation the bullous lesions have entirely disappeared. New lesions, macular in type, about the size of a large pea, in the center of which is a tiny vesicle, have appeared in the same areas.

DISCUSSION

DR. CHARGIN: I think that the case is one of pemphigus. The patient shows a generalized, superficial, profuse eruption of bullous lesions arising from an apparently normal skin. Some of the lesions are crusted, which accounts for the error. The patient shows a Nikolsky sign.

DR. FRANK: I agree with the diagnosis of bullous impetigo.

DR. ABRAMOWITZ: I think that the diagnosis of pemphigus should be considered as the lesions are typical, but not finally so until after the patient has been observed for several weeks and a drug eruption excluded. The application of ammoniated mercury should be continued.

ICHTHYOSIFORM ERYTHRODERMA. Presented by DR. CHARGIN.

B. H., aged 18, was presented during the February, 1926, meeting of the society with a tentative diagnosis of pityriasis rubra pilaris? (ARCH. DERMAT. & SYPH. **14**:205 [Aug.] 1926). At that time I favored this diagnosis because the eruption was absent on the flexors and because there appeared to be rather typical keratotic papules on the buttocks and neck. Since then the papules have disappeared, and the flexors now show an eruption similar to that on the rest

of the body which is made up of ichthyosiform scales plus erythroderma. The patient has been treated with parathyroid extract without any noticeable change in the character of the eruption.

DISCUSSION

DR. ABRAMOWITZ: I believe that this is an ichthyosiform erythroderma, although some of the typical features of this disease are missing. I would suggest the use of ultraviolet radiation. Recently Jausion reported some interesting work in connection with the ultraviolet ray and its effects, when given together with intravenous injections of pure acriflavine. The supposition is that these injections make the patient more sensitive to the ultraviolet ray and although his reports deal with pelade, this method might be pursued in this patient in order to obtain the maximum effect of the ray (Bull. de la Soc. franç. de dermat. et Syph. **8**:641 [Nov.] 1926).

NEW YORK DERMATOLOGICAL SOCIETY

Regular Meeting, Dec. 21, 1926

H. H. WHITEHOUSE, M.D., *President*

BASAL CELL EPITHELIOMA AND LUPUS ERYTHEMATOSUS. Presented by DR. WHITEHOUSE for DR. CLARK.

M. C., aged 70, born in the United States, housewife, claims that she had had a nodular lesion in front of the right ear which gradually spread and was healed fifteen years before presentation by twenty-one exposures to the roentgen ray.

Eleven years prior to presentation, when first seen, she had a lupus erythematosus surrounding the original area the size of a silver dollar, with a nodular lesion just in front of the antitragus and another at the lower edge of the lupus area.

One year later the lupus lesion and the nodules were healed with radium, and remained healed for ten years until three months before presentation when a group of nodules appeared at the lower edge of the old smooth rear area, gradually ran together and broke down into a superficial ulcer with a rather rapid spreading of a brawny, hard lesion of the skin with superficial rolled and nodular edges.

During the two months prior to presentation the lesion had spread forward, downward and backward around and behind the lobe of the ear. The patient was presented in the light of the past history for a discussion as to whether an extensive excision with repair by a pedicle flap was justifiable in a patient of such advanced age.

DISCUSSION

DR. WHITEHOUSE: I might add to the history that the woman's daughter said that her mother had recently recovered from a stroke of some kind.

DR. WISE: I think the best treatment would be with electrocoagulation. The woman has already had too much roentgen-ray treatment, and that would not seem to be indicated now.

DR. MACKEE: The lesion consists of a sharply marginated area of deep infiltration. The skin is somewhat translucent and yellowish, and there is

some telangiectasia. In the center of the patch there is an erosion. It is possible that the lesion is one of morphea-like epithelioma, which is always of the basal cell type. If it is assumed that the lesion was originally lupus erythematosus, it would be a rare occurrence for basal cell epithelioma to develop as a sequel to lupus erythematosus or to radiodermatitis. As a result of the history and the appearance of the lesion, I suggest that the infiltrated area is the sclerodermatous type of radiodermatitis. The erosion in the center may well be the begining of squamous cell epithelioma. Because of these possibilities, together with the patient's age and poor health, I would be inclined to keep her under observation and do nothing radical unless the appearance of the lesion changes considerably. Later it may be necessary to remove the lesion by the high frequency cutting current or surgically. If this is done, it will be advisable to remove the entire diseased area and go deeply enough to find normal tissue. If the roentgen-ray sequela is entirely removed, granulations will develop promptly, and skin may be grafted over the area.

Dr. Wise: All of these infiltrated scleroderma-like areas, after excessive and long-continued roentgen-ray treatment, seem to be in the center of the lesion with radiating telangiectases around it; the scleroderma is usually the middle of the lesion and the surrounding skin gradually merges off into the normal. In this case, that does not obtain. The bottom of the lesion is scleroderma-like, but not like the hub of a wheel with spokes of dilated blood vessels. That makes me think it is not the result of excessive roentgen-ray treatment.

Dr. MacKee: Dr. Wise has given a word picture of a classic case of chronic radiodermatitis affecting a large area. When a small area is well protected, the sclerodermatous sequel will end abruptly with a sharp margin. As Dr. Wise states, there is no radiating telangiectasia in this patient, but this is not always present.

Dr. Fraser: I have serious doubts whether any part of this lesion is epitheliomatous. It would not do any harm to punch out a small piece for microscopic study; then, if the histologic diagnosis were epithelioma, endothermy, as suggested by Dr. MacKee, should be the method of choice. Even if the lesion should turn out to be a carcinoma of the squamous cell type, the prognosis is fairly good, as these growths are less malignant at this woman's age than when they occur in younger people.

Dr. Williams: I cannot speak of the diagnosis, for I did not see the case, but ulceration beginning in a radiodermatitis is often exceedingly sluggish and lasts a long time before it breaks down into epithelioma; and unless this were clinically definitely epithelioma I would hesitate to treat it as such. The important thing is the woman's age, and the fact that she has had a stroke. If there is any doubt as to whether this is an epithelioma, she will probably die of something else before this gives her any serious trouble.

Dr. MacKee: I have repeatedly seen squamous cell epithelioma develop in the center of a mass of sclerodermatous or sclerotic skin caused by previous roentgen-ray or radium treatment. As a rule such epitheliomas, in spite of being of the prickle cell type, often develop slowly because of the dense sclerotic tissue. For this reason they may exist for years without affecting the health or comfort of the patient. When they reach healthy tissue, however, either spontaneously or as a result of therapeutic efforts, they become rapidly invasive and soon cause death. I doubt that this woman will die of epithelioma.

It seems preferable not to treat the lesion, but simply keep the patient under observation.

Dr. Howard Fox: The case brings up a number of interesting points for discussion. The diagnosis of lupus erythematosus must be accepted from the former appearance of the lesion. It was treated with the roentgen ray, which I feel is not a suitable agent for this disease. In fact, I think it is generally agreed that the roentgen ray is contraindicated in lupus erythematosus. The patient apparently has a large area of thickened tissue due to previous irradiations. At one point where it has broken down, there is probably an epithelioma. As this developed on skin which was subject to chronic inflammation, an epithelioma would almost surely be of the prickle cell rather than of the basal cell type. This tissue would not be favorable, in my opinion, for extensive surgical intervention. I would be against radical treatment and would agree with the suggestion of electrodesiccation for the broken-down area. For the sake of record I do not think this case should be recorded as an epithelioma developing on lupus erythematosus, a decidedly rare condition.

Dr. Kingsbury: My impression is that the growth is not a particularly malignant one, and I do not think radical operative measures would be indicated even if the woman were in better health.

Dr. Whitehouse: I think it is the consensus of opinion that drastic measures are contraindicated in this case, and I am thoroughly in accord with that decision in regard to the case and the patient. Some one asked whether it was a case of epithelioma developing on lupus erythematosus as presented. All I can say is that the patient is presented by Dr. Clark as a case of basal cell epithelioma of the scleroderma type in the edge of an old lupus erythematosus lesion healed ten years prior to presentation. He does not state, however, what would be apropos to Dr. MacKee's remark about rapid spreading. He says: "The present condition is of three months' duration, when a group of nodules appeared at the area of the old scar and broke down, with superficial ulceration accompanied by a rather rapid spread of the brawny hard lesion of the skin." So I think that possibly the brawny hardness of the skin, scleroderma-like, has developed only in the last few months, and all this irradiation done fifteen and eleven years before presentation with the roentgen ray and radium may have nothing to do with it. I do not know whether this scleroderma really goes back to the irradiation so long ago. He does not state whether under his observation a biopsy was made to determine the presence of basal cell epithelioma. I agree with Dr. MacKee and most of the members here that drastic measures are not indicated nor further irradiation, but I rather favor expectant treatment or that endothermy would be the safest and best treatment if it proves necessary to do something further after long observation.

Telangiectasia Following Roentgen-Ray Treatment of Hypertrichosis. Presented by Dr. Howard Fox.

Mrs. B., a young married woman, was presented to show the bad results of treatment for superfluous hair by the roentgen ray. She presented a telangiectasia of a mild degree on the face and of a severe type on the thighs. She stated that in 1923 she had visited the "Dermic Institute" for the relief of hypertrichosis of the thighs. Treatment had been given for about six months at intervals of two and three weeks. Telangiectasia first appeared about eight months after her last visit. It involved the antero-internal aspect of the

thighs and was profuse and disfiguring. In spite of the treatment much of the original growth of hair remained. According to her statement, she had later been treated for hypertrichosis of the skin and neck at the "Tricho Institute." The treatment, she said, had extended over a period of one year, ending in August, 1924. Telangiectasia had first appeared about one year later, but had since then gradually increased in extent. It now involved the region of the lower jaw, chin and neck, and although not of a severe type could not be entirely hidden by cosmetics.

DISCUSSION

DR. WILLIAMS: I should like to refer to a somewhat similar case in which the patient had what appeared to be radiodermatitis. The woman said that it resulted from putting what was said to be a by-product of radium on her face some time before. She says that it caused her great agony, and then healed up with the whole lower part of the face affected.

DR. LANE: The interesting point to me is these full-grown hairs in spots with marked radiodermatitis. This demonstrates better than anything else the futility of attempting permanent expilation by the roentgen ray with our present knowledge.

DR. WILLIAMS: I have seen a woman with a moderately heavy growth of hair on the face who was treated by means of roentgen ray many years ago. She developed a chronic radiodermatitis, and the growth of hair persisted.

PITYRIASIS ROSEA FOLLOWED BY APPARENT DEPIGMENTATION. Presented by DR. HOWARD FOX.

Mrs. M. S., aged 20, had been treated three years previously for an ordinary pityriasis versicolor in which *Microsporon furfur* was present, and in which an apparent cure was obtained by hyposulphite of soda. One month prior to presentation the patient returned presenting the usual tan on the shoulders, arms and neck acquired from exposure to the sun in a bathing suit. On the tanned area were numerous discrete, slightly scaly, apparently depigmentated spots varying in size from that of a pea to that of a bean. In addition, there were light brown areas on the chest, characteristic of tinea versicolor. In both the light brown and in the whitish spots, the fungus was again found, and also one week later, in spite of treatment. She was then given an anti-parasitic ointment, and at the end of another week fungus could not be found in any of the lesions. The ordinary brown patches on the chest had disappeared, but the whitish macules on the tanned areas remained unchanged.

DISCUSSION

DR. WISE: I have seen two similar cases, one of which was that of a patient demonstrated by Dr. MacKee at the College of Physicians and Surgeons. The question is whether the depigmentation is a true one, or whether it only appears so by contrast with the surrounding skin. It is a difficult thing to decide. I do not think these cases are described in any textbook or article — these depigmented lesions showing fungi in the areas of depigmentation.

DR. LANE: The use of ultraviolet light and sunlight changes the appearance of pityriasis versicolor. During the past summer, I saw a patient with pityriasis versicolor who also had pernicious anemia, for which he had sunbaths and ultraviolet light treatments. The pigmentation was peculiar. He was a cleanly patient and had scrubbed himself a good deal, and for a long time I was

unable to make the diagnosis of pityriasis versicolor positively, as the microscopic examination was repeatedly negative, until cool weather came on and he wore more clothes and took less baths. I do not know just what the mechanism of the formation of the white spots is in this case.

DR. MACKEE: I have seen three instances of what might be called the white type of pityriasis versicolor, one of which was under observation for a long time and carefully studied. The white type of the disease appears to occur only on patients who are exposed to the sun. The normal skin, of course, tans; but the diseased areas do not. Therefore the latter appears lighter than the normal skin. Furthermore, when the disease is cured the white areas remain. This, however, is not a depigmentation but simply lack of tanning. A constantly exfoliating, thickened, horny layer of the affected areas apparently prevents tanning or sunburn. Presumably, if patients remain in the sun during and after a cure, the light areas would gradually tan and assume the color of the tanned normal skin.

The patient whom I had under observation for a long time, was first seen in the spring. He had innumerable sharply marginated, milk white lesions varying in size from that of a pinhead to that of a split-pea which were scattered all over his trunk. In a few places individual lesions had coalesced to form palm-sized patches. Most of the lesions were macules, but a few could be felt by palpation and therefore might be classified as papules. The lesions showed a fine wrinkling which was due to the thickened horny layer, but which might readily be mistaken for atrophy. The lesions were not scaly unless scratched. The normal skin between the lesions was a dark brown from exposure to the sun. The case had been diagnosed lichen atrophicus. The diagnosis of pityriasis versicolor was made on finding spores and mycelia in the scales. The disease disappeared, of course, under the use of a 10 per cent solution of sodium hyposulphite. It was, however, rather stubborn and required several weeks of constant treatment. After the milky white lesions disappeared light areas remained, but this color was about that of the patient's untanned normal skin. The patient remained under observation during the entire winter. It was not until spring that the tan had disappeared; then the skin was of the same color over the entire trunk.

The question which must be decided in the future is whether all of these cases of white type are due to lack of tanning in the affected areas and tanning of the normal skin, or whether it is possible that in some instances white lesions may be produced by a species of fungus with which we have hitherto been unacquainted. In Dr. Fox's case the white areas appear to be normal skin following the cure of pityriasis versicolor. They look white because the surrounding skin is dark brown from exposure to the sun. One of my cases was of this type. The other two patients presented milky white lesions in the scales from which we found the fungus. These patients had been exposed to the sun and the normal skin was a dark brown as a result of such exposure. The point to keep in mind, however, is that in these two cases the active lesions themselves were white, and perhaps they would have been white even without exposure to the sun.

DR. WHITEHOUSE: I think what Dr. MacKee said is an interesting point —his opinion of the white spots having the fungus in them as well as the other spots. It would seem to show that the brown and the depigmented areas were scaly and were the seat of the fungus, *Microsporon furfur*. I do not think it is atrophy; I do think the white areas are probably accentuated by

the contrast of color. They are not so much paler than the girl's normal skin further down. The whole case is interesting.

DR. HOWARD FOX: I do not think these are actually depigmented spots, but that they look white through contrast with the deeply tanned area. The spots are probably explained by Dr. MacKee's suggestion that the young woman had a number of small areas of pityriasis versicolor, and they did not tan as did the surrounding skin. Now the disease is apparently cured, and if I can follow up her case as Dr. MacKee did his patient, by next summer the whole area may have the same color.

LICHEN PLANUS CONFINED TO THE MOUTH. Presented by DR. HOWARD FOX.

Mrs. F. R., aged 54, had suffered from an eruption confined to the mouth for six months. It had increased gradually in extent up to presentation. Her attention had first been called to the condition by a slight roughness of the buccal mucosa on touching it with the tongue; otherwise there were no subjective symptoms. The eruption was present on the buccal mucosa, especially marked at the commissures. There were also a few lesions upon the right side of the dorsum of the tongue. The eruption consisted of punctate and reticular, grayish white, superficial patches, the majority of which were not perceptible to the touch. At one point there was a distinct circinate arrangement of the lesions. Examination of the entire cutaneous surface and genitalia failed to show the presence of lichen planus or any other eruption. There was not any history of syphilis, and the Wassermann reaction was negative. Many teeth were missing, but of those that remained none had jagged edges. There was not any history of gastro-intestinal disturbance, and the patient drank little alcohol and never used tobacco. She was worried about the possibility of cancer of the mouth. Biopsy had not been performed.

DISCUSSION

DR. WILLIAMS: I did not see the case, but would hesitate to make any diagnosis of lichen planus confined to the mouth unless confirmed by biopsy.

DR. FRASER: It is my opinion that this is a typical picture of lichen planus on the mucous membrane, but Dr. Williams' suggestion is a good one that in all these cases, when it is possible to do so, the clinical diagnosis should be confirmed by microscopic study.

DR. BECHET: I agree with the diagnosis as presented. Leukoplakia is usually more raised than infiltrated, and presents a dull, soggy appearance. It is well known that lichen planus lesions can be extremely localized, limited at times to only a few lesions on the glans penis or buccal mucosa.

DR. MACKEE: I agree with Dr. Fox's diagnosis of lichen planus. There are only three diseases which can produce long-standing white lesions in the mouth, namely, leukoplakia, lupus erythematosus and lichen planus. In this instance the reticulation, grouping and isolated papules, together with the milky white color, compel one to make a clinical diagnosis of lichen planus. Also the absence of syphilitic concomitants, the erosion and inflammation that accompanies lupus erythematosus of the mucosa.

DR. WISE: I agree with the diagnosis.

DR. WHITEHOUSE: I agree with the diagnosis of lichen planus of the mouth. A lichen planus confined to the mouth is not so uncommon. I have seen two patients who subsequently developed lesions of the skin after a long period

of time. One was a cultured woman from out of town on whom the diagnosis of leukoplakia had been made, and she had received much treatment with arsphenamine without any effect. Some one suggested that carcinoma might develop on these leukokeratotic patches. This suggestion had a disastrous effect on her nerves. At that time lesions had not appeared on the skin; later, however, she reappeared with a full fledged generalized lichen planus. The other case was that of a widow with a leukoplakia-like condition on the tongue, and she also was treated for a long period of time for syphilis. I would probably have fallen into the same error, for the man who made the diagnosis was competent to judge, had I not found some annular lesions which developed subsequently under the breasts. Some of these cases do closely resemble syphilis, but the lesions on this woman's tongue did not; sometimes frank lichen planus of the skin develops later. One of these patients also had lesions on the vulva at the time we diagnosed the lesions as lichen planus.

Dr. Howard Fox: I feel that a clinical diagnosis can be made in this case, even without the confirmatory evidence of cutaneous lesions of lichen planus. Leukoplakia can be practically ruled out from the absence of its usual causes, including syphilis, smoking, jagged teeth, alcohol, and gastro-intestinal disturbances, not to mention the patient's sex. Leukoplakia is uncommon in women, the proportion of men to women varying according to different statistics from thirty to fifteen men to one woman. From the positive evidences alone I think that the diagnosis is reasonably sure, as she presents a delicate superficial eruption showing minute punctate, circinate, and reticulated areas. This is the fifth case of the kind I have seen, in three of which the diagnosis was confirmed histologically. I shall attempt to get permission for a biopsy in this case.

Extensive Urticaria Pigmentosa Beginning in Infancy and Persisting Twenty-Seven Years. Presented by Dr. Howard Fox.

M. S., aged *27*, born in the United States, a practical nurse, was presented not merely as a classic case of extensive urticaria pigmentosa, but one in which the eruption appearing in infancy had not disappeared at puberty but remained unchanged for twenty-seven years. The eruption first appeared at 7 months, following an attack of meningitis. At the age of 5 she had suffered from cervical adenitis, which ulcerated and left scars. About three years prior to presentation she consulted the Neurological Institute for "nervousness," and stated that a "toxic thyroid" condition was found. Several physical and roentgen-ray examinations of the chest had not shown any evidence of tuberculosis. Her family history was unimportant, and none of her relatives had suffered from a similar skin disease. The menses were established at 14, and the flow had always been of average duration and amount.

The eruption was generalized, symmetrical and profuse, involving the entire body except the scalp, palms and soles. It was mostly discrete, though in places there were coalescing reticulated areas. The lesions were of small size, that of a pea on the average, and were light brownish with a reddish tinge in places. On friction the lesions became somewhat elevated and reddish. There was a diffuse redness of the face, partly masking the lesions, which however could be seen. There were no subjective symptoms. Perspiration was normal. The patient was of medium size, of fair complexion, well nourished, and in fair apparent health. Her circulation was poor, her hands being constantly cold and bluish.

A Case for Diagnosis: Pemphigus Vegetans (?). Presented by Dr. Howard Fox.

W. C. S., aged 39, born in the United States, of German Gentile ancestry, a retail grocer, whose parents were living and well and whose family history was unimportant, with the exception of measles in childhood, had always enjoyed robust health previous to his present illness. About four years prior to presentation he suffered from a severe sore throat, was treated by diphtheria antitoxin and recovered in two weeks. Six months later a tonsillectomy and hemorrhoidectomy were performed. About one month later his mouth became sore with what he called canker sores. Since then he had had recurring attacks of sore mouth. Coincident with the beginning of the oral lesions the meatus became red and covered with "blisters." These had persisted to the time of presentation. About six months later, "blisters" appeared in the left groin, became confluent and spread.

From June 10 to September 1 of this year, the patient was under observation at the Johns Hopkins Hospital. According to a copy of the hospital records in the patient's possession, no definite diagnosis of the lesions in the mouth or the meatus was made. Those in the genitocrural region were treated for granuloma inguinale by tartar emetic without benefit. A total of 62 cc. of a 1 per cent solution in divided doses (the number not being stated) was given. A diagnosis of "papillomatous venereal wart" was then made from a histologic examination. The lesions were treated by "fulguration and had practically disappeared at time of discharge." The lesions in the mouth were not benefited by treatment. A smear showed a few Vincent's organisms, and one opinion was expressed that both the mouth and meatal lesions were Vincent's angina. Arsphenamine was suggested but not used, though previous to coming to the hospital he had received one intravenous injection of arsphenamine without any benefit.

The patient also presented a pustular condition of one great toe, which had appeared shortly before his admission. This was considered to be due to ingrowing toe nail. While in the hospital the great toe of the opposite foot became similarly affected. Treatment by ultraviolet light was given the meatal lesion, and a meatomy followed by the passage of sounds was performed with only slight benefit. Practically nothing but negative evidence was obtained from the various laboratory tests. A blood count showed the red and white cells to be within normal limit. A differential count showed a marked eosinophilia. The Wassermann reaction was negative, the urine showed no abnormal ingredients, and his blood sugar content was 85 mg. in 100 cc. of blood.

A dental examination "ruled out the teeth as a factor" in his disease. Cultures from lesions in the groin showed colon bacilli, from the toe *Staphylococcus albus*, and from the mouth the "usual mixed growth of normal mouth organisms." The temperature had been afebrile except on one occasion when an intravenous injection of mercurochrome-220 soluble had been given, which was followed by a sharp reaction.

The patient first came under Dr. Fox's observation eleven days before the meeting at which time several of the lesions presented a picture different from that presented. There was practically nothing abnormal in the mouth at that time. The lesions in the genitocrural region were decidedly more elevated and papillomatous, having since flattened considerably under roentgen ray treatment. The feet also presented a vesiculosquamous appearance suggestive of eczematoid ringworm. At the time of presentation there was a

profuse vesiculobullous eruption of the greater part of the mouth including the hard and soft palates and lips. On the meatus was a bright red, superficially ulcerated, smooth lesion about a third of an inch (.84 cm.) in diameter. In the genitocrural and anal regions were a number of papillomatous and partly ulcerating lesions with a seropurulent discharge of bad odor. They varied in size from a pea to an inch and a half (3.8 cm.) in longest dimension. There was also a palm-sized irregular area of scar tissue, the result of former treatment. The toes and part of the tarsus of the left foot were swollen, painful and tender, and covered by numerous discrete and coalescing pustules, suggesting the picture of a dermatitis repens. Cultures were made from the papillomatous lesions, but no growth had appeared at the time of presentation. Cultures from the foot showed *Staphylococcus aureus,* and from the mouth pure *Streptococcus.* The urine was normal except for a marked amount of indican. Tissue from one of the papillomatous lesions in the groin showed no Donovan bodies and no *Blastomyces.* A histologic examination by Dr. Highman showed a granuloma (infectious, probably due to a fungus).

The patient was a tall, athletic looking man, weighing 170 pounds (77.1 Kg.) and of dark complexion. He was in good general health and had not lost any weight since the onset of the disease.

DISCUSSION

DR. WILLIAMS: It will probably turn out to be a case of pemphigus. The diagnosis is exceedingly difficult.

DR. SCHWARTZ: I agree with the tentative diagnosis of pemphigus.

DR. BECHET: The case is an interesting one. Apparently many cases of pemphigus begin in a benign manner. Some years ago I had under my care two women who for several years had only a few lesions and then suddenly developed a severe typical pemphigus eruption. Dr. Fox has also shown several cases with few lesions, later developing a fulminant type. I think the lesion on the foot is an extraneous one, and despite the fact that fungi have not been found, repeated examinations may show them. The lesion is sharply outlined and is extremely suggestive of tinea.

DR. MACKEE: It is certainly an uncommon case. The diagnosis of pemphigus vegetans suggested by Dr. Fox must be seriously considered, but in a case of this duration I should expect to find poor general health. This man is strong and perfectly healthy.

The eruption on the foot twenty-five years ago would have unhesitatingly been called dermatitis repens, but now we designate it dermatophytosis. The vegetating lesions in the groin suggest a fungus eruption, rather than pemphigus vegetans because they have been fairly dry whereas in pemphigus vegetans there is exudation, bullous formation and foul odor. The fact that the lesions responded well to roentgen-ray treatment is suggestive of a fungus eruption, because fungus eruptions often do respond well to such treatment while it is generally understood that dermatitis vegetans has not improved at all by exposures to roentgen rays or radium. The eruption in the mouth makes the diagnosis more difficult. I understood Dr. Fox to say that the eruption in the mouth was due to the organisms of Vincent. Before agreeing on a diagnosis of pemphigus vegetans, I think the case should be more carefully investigated bacteriologically.

DR. WILLIAMS: The picture of the foot, and particularly the section with the nail, corresponds exactly with what Hallopeau and Audry described as

acrodermatitis suppurativa chronica, a type of dermatitis repens, which is resistant to all forms of treatment.

DR. WISE: I am inclined to agree with Dr. MacKee that Dr. Fox's diagnosis of pemphigus vegetans is first choice. One feature against that, however, is the persistent lesion on the meatus which is foreign to pemphigus vegetans. As to the lesions on the foot, I should think it better to accept them all as due to the same cause. Any one who reads the German literature will be astonished to realize the number of lesions which they are unearthing as due to the fungi; and a case of this sort should be carefully studied, for it is possible that an organism may be discovered which is not found on superficial observation. It might well be due to some fungus outside of the ringworm group itself.

DR. WHITEHOUSE: It is a complicated case and well worthy of further study. I agree with Dr. MacKee that an unusual feature of the case is the man's general good health after four years; usually something happens to the constitution before that in pemphigus. A confirmative factor, however, is that these lesions first appeared about the mouth and meatus. The subsequent development seemed to be some independent infection. That is the way I would differentiate the two processes, although I think that too often we do that—many times making two or three different diagnoses in the same person. But from the sequence of events in this case, the subsequent lesions in the groin and foot might well be further investigated by the various culture methods to determine whether eventually some fungus or other infectious element is not responsible.

DR. BECHET: I do not agree with the two points against the diagnosis of pemphigus raised by Dr. MacKee and Dr. Wise. First, the patient's general good health; and second, the appearance of the lesions in greatly restricted areas over long periods of time. Both are perfectly compatible with the diagnosis of pemphigus. I have two patients in mind who for two or three years had only a few bullae in the mouth. They were in perfect health, and yet both died six months after the development of a generalized typical pemphigus. Another patient was presented to this society five years ago with a few bullae between the scapulae and over the sternal region. The patient has been constantly under observation since then and he has remained in good health without any extension of the lesions until two months ago, when there occurred an extensive outbreak of bullae generally distributed over the body and in the mouth. With the appearance of the eruption his health began to fail, and he has now all the classical symptoms of a general pemphigus. For these reasons, I am inclined to believe that the patient under discussion will be eventually found to be suffering from pemphigus.

DR. HOWARD FOX: We all agree that the case is a complicated one. The question arises as to whether all these different types of lesions are due to one cause or whether more than one type of disease is present. I made the tentative diagnosis of pemphigus vegetans partly to classify the various lesions under some title. Of course I agree with what has been said—that it is against pemphigus vegetans not to show any loss of strength which is one of the classic signs. As to whether the foot lesion is a different disease, I do not know; but when I saw this patient a week or so ago the appearance was totally different from what it is at present. It looked like a classic ringworm, not at all as you just saw it. We have made a number of cultures, hoping that some light may be thrown on this obscure case.

A Case for Diagnosis: Mycosis Fungoides (?). Presented by Dr. Maloney.

C. D., aged 28, born in Italy, a tailor, presented an eruption of five and one-half years' duration on chest, back and extremities. This eruption was made up of an oval shaped eczematoid patch, 4 in. by 1 in. (10.16 by 2.54 cm.), on the back below the left scapula, and two similar but more rounded patches on the chest just in front of each axilla. There were also many various sized patches on both arms and both legs almost covering the entire surface. These patches were a fairly bright red, infiltrated in places, and studded with large papules and small nodules, many of which were scaly. At times he suffered intensely from itching. An examination of a section taken from one patch showed the histologic picture of psoriasis.

DISCUSSION

Dr. Wise: From the clinical point of view, I would not consider mycosis fungoides, assuming that the lesions on the thighs and legs and those on the upper extremities are due to the same cause. It is true that some of the lesions on the thighs are marginated and dusky red, but that may occur in other conditions; the lesions on the arms are more like prurigo lesions and do not resemble the ordinary lesions seen in mycosis fungoides. I would therefore not make the diagnosis of mycosis fungoides and would suggest leukemia. The papular lesions of the upper extremities are not those of mycosis fungoides.

Dr. MacKee: Clinically, I think the case belongs in the granuloma group, either mycosis fungoides or leukemia cutis. In the early stage of mycosis fungoides the disease may simulate other conditions, such as eczema, psoriasis, neurodermatitis, and lichen planus. The microscopic changes in the early stage may also simulate these other conditions. It is possible that if several biopsies are made on this patient from lesions of different clinical type and in different stages of evolution, a definite diagnosis will be made.

Dr. Bechet: I am inclined to agree with what Dr. Wise says, assuming that the lesions are similar on the thighs and arms. Those on the arms do not resemble mycosis; they are nodular and scratched and excoriated. The only ones suggestive of mycosis are the plaques on the thighs.

Dr. Howard Fox: When I saw the patient in the clinic the two diagnoses considered were mycosis fungoides and leukemia. Certainly the extensive plaques suggest mycosis fungoides and the other nodular lesions leukemia cutis. The histologic evidence of psoriasis recall a case of mycosis fungoides which I reported, which had been preceded by psoriasis for twenty-eight years. The patient had been seen at the Vanderbilt Clinic by the late Dr. Jackson, who considered it undoubtedly psoriasis. The psoriatic eruption may possibly have been mycosis, assuming the appearance of psoriasis in the premycotic stage.

Dr. Wise: Is it not true that you frequently see sections in which the histology is said to be characteristic of mycosis fungoides, where you have not seen the clinical eruption and where the disease does not in any way resemble mycosis fungoides? I recall a number of sections which were diagnosed as mycosis fungoides without question by expert pathologists, in which the clinical picture was no more like mycosis fungoides than it was like acne vulgaris. I do not think you can make a positive diagnosis of mycosis fungoides with sections alone, in some cases.

Dr. Fraser: In answer to Dr. Wise, I have not had the opportunity of seeing a case diagnosed histologically as mycosis fungoides when the clinical picture did not correspond with that diagnosis. I have seen sections which

any pathologist would call lymphosarcoma taken from lesions which were clinically mycosis fungoides. Mycosis fungoides is a clinical but not a pathologic entity.

DR. LANE: Did the biopsy include one of the nodules from the arm, or was it one of the flat plaques?

DR. MALONEY: The first biopsy was part of a nodule and part of the adjacent skin; but the second, not yet studied, was taken from the nodule itself.

DR. WHITEHOUSE: I think the point made by Dr. Lane about the biopsy being taken from a nodule is important, for it is thought by some present that these nodules were not like mycosis fungoides clinically; and if such a biopsy develops that feature as well as from the plaque and shows it to be a mycosis, it brings the diagnosis down to the one disease rather than possibly leukemia, for we do know that mycosis fungoides develops from apparently eczematous or psoriatic lesions. I am of the opinion that it is mycosis fungoides.

DR. FRASER: The diagnosis of mycosis fungoides cannot be excluded here on clinical grounds. The infiltrated plaques on the thighs and chest are highly suggestive of that disease. Regarding the histologic picture, one should not be concerned because of its resemblance to psoriasis. I have frequently compared sections from cases of typical clinical psoriasis and early premycosis where differentiation between the two diseases was impossible on the basis of the histologic picture. The epidermal changes, including parakeratosis, are frequently the same in both and the character of the changes in the corium appears to be one of degree rather than kind. Only in the heavily infiltrated plaque or tumor stage can mycosis fungoides be differentiated on histologic grounds from the ordinary dermatoses. I feel that when the sections which are now in course of preparation are studied, the diagnosis of mycosis fungoides will be established in this case.

DERMATITIS HERPETIFORMIS. Presented by DR. WILLIAMS.

The patient, a boy, aged 9 years and 11 months, presented an extensive eruption of dermatitis herpetiformis. The disease began nine months before presentation with a few papules on the scalp, spreading over the trunk. Treatment at the Good Samaritan Dispensary was ineffectual. When first seen by Dr. Williams about six weeks previously, there were impetiginous crusts on the scalp extending with a sharply defined curved margin onto the temple, many small pustules on the trunk, some of them in irregular groups, and also crusted lesions and stains on the trunk. Treatment with ultraviolet light and with white precipitate ointment cleared up the impetiginous lesions, but did not have any effect whatever on the recurrent crops of vesicopustules.

DISCUSSION

DR. WISE: This is another difficult case for diagnosis, but in my opinion the diagnosis of dermatitis herpetiformis is the most likely one.

DR. MACKEE: I agree absolutely with Dr. Williams' diagnosis of dermatitis herpetiformis. I have not seen such a classic picture of this disease in many years. The lesions consist of dime-sized areas of erythema in which there are eight, ten or more pinhead sized vesicles and vesicopustules; in other words, a typical herpetiform eruption.

DR. MALONEY: I agree with the diagnosis.

DR. KINGSBURY: That the case is one of dermatitis herpetiformis is by no means certain, although possible. Against this diagnosis is the comparatively short duration and absence of eruption on the extremities.

DR. SCHWARTZ: I agree with the diagnosis as presented.

DR. FRASER: I agree with Dr. Williams that this is in all probability a case of dermatitis herpetiformis. The absence of lesions on the limbs may be accounted for, as Dr. MacKee has suggested, by the short duration of the disease. The lesions on the trunk are in group formation and many of them are distinctly vesicular in type. Others show a transition from vesiculation to pustulation. I am firmly convinced, from a histologic study in similar cases, that the pustulation is not due to secondary infection. Whatever the nature of the toxin, it is probably carried in the blood stream to the terminal capillaries of the papillae, where one sees all the phenomena of a severe acute inflammation. The characteristic lesion is a vesicle. This vesicle differs from the vesicle of eczema in that it is located in the papilla instead of in the epiderm. Each vesicle contains serum, numerous polymorphonuclear leukocytes, and much fibrin.

DR. WHITEHOUSE: I incline to the diagnosis of dermatitis herpetiformis. The grouping, the papules and the vesicles are characteristic. I have seen several cases of rather localized dermatitis herpetiformis. It may be limited to the arms and legs; one case of mine was on the buttocks and back, and not anywhere else; however, it was a typical dermatitis herpetiformis.

DR. WILLIAMS: I agree with Dr. Kingsbury that one should never make a positive diagnosis of dermatitis herpetiformis on the first attack, but I think that is the most probable diagnosis here. The condition has to begin some time, and certainly the duration of only nine months is not against it. The statement that it does not occur on the exremities is not altogether true — the boy has lesions on the right wrist. Dr. Fraser believes that these pustules are pustules from the start and not a secondary infection. These are not scratched; they begin as slightly clear or turbid vesicles which become more turbid. The secondary infection to which I refer is not in these, but in the scalp where at one time the boy had typical crusts of impetigo. He is getting arsenic and exposures to ultraviolet light, but shows no improvement except that the secondary infection on the scalp has cleared up.

Book Reviews

DISEASES OF THE SKIN. By JAMES H. SEQUEIRA. Ed. 4. Pp. 684, with 309 text figures and 59 colored plates. New York: The Macmillan Company, 1927.

This new edition of Sequeira's well known work is thoroughly revised and brought up to date. The demand for the fourth edition is evidence of the esteem with which the book is held by the medical profession. It is one of the standard works on the subject.

PRACTICAL MEDICINE SERIES. Volume Dermatology and Syphilis, edited by William Allen Pusey and Francis E. Senear; and Urology, edited by John H. Cunningham. Pp. 418. Chicago: Year Book Publishers, series 1926.

It is worth while to call attention to this summary of activities in dermatology, syphilology and urology, which has appeared annually for many years. It is a valuable summary in convenient form for any one who wants to keep abreast of the activities in these fields.

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